

**An investigation into the effectiveness of corporate  
sustainability programmes and initiatives in the  
agricultural sector:  
The case of British American Tobacco Zimbabwe**

by

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## **Declaration by the Student**

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## Abstract

In recent years, a great deal of attention has been paid towards the notion of corporate sustainability, which has variously been defined as meaning the incorporation of social, environmental, economic, and cultural concerns into corporate strategy and bottom line. The preliminary investigation suggests that Multi-National Corporations (MNCs) are mainly worried about securing permission for commencing operations and not about the wellbeing of locals and their livelihoods. Further to this, one of the main reasons why efforts aimed at improving sustainability are not yielding significant and lasting results, is that solution seekers in business, science, government and the research community are still operating in the same old paradigm of using basically the same tools and adopting the same world view that threaten sustainability in the first. The key and clear research objectives of this study are:- to ascertain if there is a link between British American Tobacco Zimbabwe (BATZ) top management philosophy, corporate strategy and the company's corporate sustainability programmes, initiatives and other efforts, and the various stakeholders, and, if so, how these are communicated to them; to establish the degree of integrating sustainable development practice and initiatives into the BATZ business model in order to have long term benefits for both the company and its various stakeholders - these are an integral part of the socio-ecological system, and will help the business understand the resilience of the system and where in the system they should operate; to establish the depth, scope and culture of sustainability in terms of the extent to which they inserted inside (embedded) the BATZ operations; and to ascertain the level of economic, social and environmental effects of BATZ's corporate sustainability programmes and initiatives in the locality in which it operates. The research used focus group and key informant discussions, one-on-one interviews, and to a limited extent a semi-structured research questionnaire. Information was also accessed from company internal information management portals, and BATZ's group sustainability and other reports. The conclusion was that renewable energy programmes at BATZ were driven by energy insecurity and scarcity. Currently BATZ is not recycling water used in cigarette manufacturing operations, waste recycling of cut-rag tobacco has been occurring, and BATZ will continue to provide agronomic support to small scale farmers under its Social Responsibility in Tobacco Programmes (SRTP) towards leaf sustainability. The Rocket Barn concept is one of the most innovative intermediate technological breakthroughs meant for improving wood fuel efficiency in tobacco curing. Socially BATZ has done some good works in addressing some of society's key challenges. There have been benefits for key corporate stakeholders in having BATZ operating in Zimbabwe. The research will assist BATZ to fully understand the socio-ecological system in which it operates; a fundamental understanding to improve corporate sustainability, which will then require a shift in sustainability-oriented efforts.

## Opsomming

Die idee van korporatiewe volhoubaarheid het die afgelope klompie jare baie aandag geniet. Wyd gesien, kom definisies neer op die insluiting van maatskaplike, omgewings-, ekonomiese en kulturele ondernemings in basiese korporatiewe strategieë. Die voorlopige ondersoek stel voor dat MNK's wel gemoeid is met die verkryging van toestemming om bedrywe te stig, maar nie juis die welsyn en dag-tot-dag-belange van die plaaslike gemeenskap op die hart dra nie. Volgens (Fiksel 2003) en Du Plessis (2008) is een van die hoofredes waarom pogings om volhoubaarheid te verbeter nog nie betekenisvolle en blywende resultate gelewer het nie, die feit dat die mense betrokke by sake-ondernemings, wetenskap, die regering en navorsing wat na oplossings soek, nog geen paradigmaskuif gemaak het wat hul denkpatriere betref nie. Hulle gebruik steeds dieselfde uitgediende gereedskap en huldig nog dieselfde wêreldsienings wat volhoubaarheid in die eerste plek bedreig het. (Fiksel, 2003, Du Plessis, 2008, Hayward et al 2010). Die doelwitte van die navorsing is: om uit te vind of daar 'n skakel is tussen die filosofie en korporatiewe strategie van BATZ-hoofbestuur en die maatskappy se volhoubaarheidsprogramme, inisiatiewe ens; om te bepaal in watter mate volhoubare ontwikkeling en volhoubaarheidspraktyke en inisiatiewe geïntegreer word in die BATZ-korporatiewe model, om impak vas te stel en die kultuur van volhoubaarheid binne BATZ-bedrywe te bepaal. Die navorsing het gebruik gemaak van fokusgroepe, van sleutelbesprekings deur ingeligte persone, een-tot-een-onderhoude en in enkele gevalle selfs van gestruktureerde vraelyste. Toegang tot inligting is ook verkry deur middel van 'n maatskappy se interne inligtingsbestuursbronne, BAT-groep-volhoubaarheids- en ander verslae. Die gevolgtrekking is dat hernubare energieprogramme afgedwing is op Batz deur die onsekerheid oor en die gebrek aan energie. Tans word water wat in sigaretbedrywe gebruik word nie deur BATZ herwin nie, maar afval van "cut-rag" tabak word wel herwin, en BAT Zimbabwe sal voortgaan met agnomiese ondersteuning aan kleinskaalboere kragtens sy Maatskaplike Verantwoordelikheid t.o.v. Tabak Programme (MVTP) vir blaarvolhoubaarheid.

Die "Rocket Barn-"konsep is een van die innoverendste intermediêre tegnologiese deurbrake om die effektiwiteit van houtbrandstof by die droogmaak van tabak te verbeter. Op maatskaplike vlak het BATZ Simbabwe goeie werk gedoen deur enkele uitdagings van die gemeenskap die hoof te bied. Die feit dat BAT in Zimbabwe werksaam is, was tot voordeel van korporatiewe belangstellendes. Die navorsing sal BATZ help om die sosio-ekologiese stelsel waarvolgens dit bedryf word, ten volle te verstaan, en om korporatiewe volhoubaarheid te bevorder, wat dan 'n kopskuif ten opsigte van volhoubaarheidsgeïntegreerde pogings sal vereis.



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## LIST OF ACRONYMS AND ABBREVIATIONS

ACA	American Cancer Association
AC	Agricultural Colleges
AED	Academy for Educational development
AICC	African Institute of Corporate Citizenship
BATSA	British American Tobacco South Africa
BATZ	British American Tobacco Zimbabwe
BBBEE	Broad Based Black Economic Empowerment
CRA	Cigarette Retail Association
CORA	Corporate, Legal and Regulatory Affairs
CSI	Corporate Social Investment
CSRITP	Social Responsibility in Tobacco Production
CSR	Corporate Social Responsibility
DJSI	Dow Jones Sustainability Index
DNA	Deoxyribonucleic Acid
EHS	Environmental, Health and Safety
ECLTG	Eliminating Child Labour in Tobacco Growing
EP	Equator Principles
H <sub>2</sub> O	Water (Chemical Formula for Water)
EMA	Environmental Management Agency of Zimbabwe
GC	Global Compact
GDP	Gross Domestic Product
GNP	Gross National Product
GRI	Global Reporting Initiative
HCC	Hwange Colliery Company
HIFA	Harare International Festival for the Arts
HIV/AIDS	Human/ (Acquired) Immune Deficiency Syndrome

KPI	Key Performance Indicators
MEA	Millennium Ecosystem Assessment
MD	Managing Director
MDG	Millennium Development Goals
MoH	Ministry of Health
MNCs	Multinational Corporations
OECD	Organization for European Countries Development
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
IMS	International Marketing Standards
ISO	International Standardisation Organisation
NBSZ	National Blood Services Zimbabwe
n.d	No date
NGOs	Non Governmental Organizations
ROCE	Return on Capital Employed
ROI	Return on Investment
R &D	Research and Development
SAM	Southern Africa Market
SD	Sustainable Development
SRI	Socially Responsible Investment
TIMB	Tobacco Industry and Marketing Board
TRB	Tobacco Research Board
UN	United Nations
UNDP	United Nations Development Programme
USS	Undergraduate Scholarship Scheme
WBCSD	World Business Council on Sustainable Development
WCED	World Council for Economic Development

## CHAPTER ONE: INTRODUCTION

### 1.1 Introduction and background

Business is facing unexpected risks and uncertainty in terms of the society and ecosystems upon which its activities depend (Haywood et al, 2010). According to the same research this will create business viability and, in the long run, sustainability challenges crippling the business operations affecting all major stakeholders in the process. The business world defines sustainable development as “adopting business strategies, and activities that meet the needs of the business and all its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future” (International Institute for Sustainable Development ((IISD, 1990)). As these realised definitions and direction to development there been a strong calls from various stakeholders for businesses an corporates to move beyond the traditional perspective of the basic and most fundamental purpose of business, which is to continually increasing shareholder value of the company in a responsible and ethical manner, and also continually improving goods and services for a growing population at affordable prices, in an environmentally sustainable manner (WBCSD, 2006b in Haywood et al., 2010). As a result of this call plus by default in the face of tough global completion, business leaders around the world, particularly those in developed countries, are promoting sustainability initiatives and practice in their companies as they realise the importance of this platform for survival (Eweje, 2011: 125). It could be argued that this stance is an indication that business leaders have added social and environmental bottom lines to their traditional financial focus (Berger et al., 2004).

This research is going to be case study based on the sustainability practises and initiatives of one of the largest Multi-National Company (MNC) in Zimbabwe, the British America Tobacco Zimbabwe (BATZ). With a strong interest in sustainability development and commercial agriculture, I am more interested in whether MNCs in this sector have used sustainability development practises and principles as a conundrum in reconciling serious social, environmental and economic issues that Zimbabwe is facing. It is also my interest to find out whether by producing sustainability reports, this is not just green washing but its real development to real people and real environmental issues of concern. I used a case based approach because there are many advantages to it but also have some disadvantages that come with it. These will be more elaborated in Chapter sections 3.3.3 and 3.3.4. It is also true that Harare was built on tobacco proceeds as Johannesburg on those of gold. Given the percentage contribution of agriculture, and tobacco sector in particular to Foreign Exchange (FOREX) earning potential of the country and to Gross Domestic Product (GDP). In weighing the various options in doing a research I have decided to use the case.

The BATZ is one of the many companies around the world that has been reporting sustainability for more than 11 years (BATSA Annual Report, 2011). By market share, British American Tobacco (BAT) is the second largest listed tobacco group globally and it processes billions of cigarettes from raw and semi-processed tobacco annually (BATSA Annual Report, 2010). The official history of the company dates back to 1904 with the creation of the United Tobacco Company. Today, group operates in over 180 countries around the world (BATSA Annual Report, 2011). In Southern Africa, it is represented in ten tobacco markets, namely South Africa, Botswana, Lesotho, Namibia, Swaziland, Angola, Zambia, Malawi, Zimbabwe and Mozambique. These regional markets are collectively called Southern Africa Markets (SAM). The BAT Zimbabwe (BATZ) is part of the Africa and Middle East region. Globally BAT has 46 factories operating in 39 countries scattered around the world. In 2011 the company produced and sold 226 billion cigarettes in the Eastern Europe, Middle East and African Markets. Its revenue for the same region was 3,990 million British Pounds. In the same region it had 12,115 employees in 2011 and had 26% of the group share value (BATSA Annual Report, 2011).

## **1.2 Empirical evidence of corporate sustainability/sustainable development initiatives, practices and impacts**

In a research conducted in New Zealand corporations, Eweje did a section in the research report on how managers described, in essence, and how they feel about the initiatives and practices that will mitigate their company's social and environmental impact (Eweje, 2011a and 2011b : 158). A range of those practical themes is given below by Eweje (2011a and 2011b: 158) as: -

### **Economic Impact**

- Substantial dividend payment to shareholders
- Employment opportunities for citizens
- Economic well-being of stakeholders
- Taxes paid to government
- Provision of energy and electricity

### **Environmental Impact**

- Impact on energy consumption
- Consumption of resources
- Impact of taking water from rivers (energy companies)
- Power stations operating around communities
- Production using water base
- CO2 emissions
- Carbon emissions within NZ
- Impact on biodiversity
- Impact of solvent based plants
- Impact on digging lands
- Impact of waste paint

### **Social impacts of sustainability initiatives/practices (to mitigate negative impacts)**

- Business operations in community space
- Employment creating and sustainment
- Pollution in communities
- Societal well-being
- Product responsibility

### **Sustainability initiatives/practices**

- Recycling and re-use of materials
- Industrial use for unusable materials (a chemical company initiative)
- Zero carbon footprint targets
- Minimisation of construction waste
- Formal environmental impact assessment
- Community partnerships / stakeholder engagement
- Waste management
- Reduction of energy consumption by using renewable energies
- \$10 million in form of grants to research in oncology and medicine (An energy company initiative)
- Fundraising for charities
- Education of employees
- Green procurement
- Partnerships with conservation groups
- Technology development
- In-door environmental quality

In the same research most managers associated good practice and initiative with good financial performance and good relationships with different stakeholders (Epstein and Roy 2003; Eweje, 2011a; Eweje 2011b). Further to this empirical evidence, some researchers have showed a good association between good initiatives and profitability (Buchholz, 1993; Dehant and Atman, 1994; Welford, 1994, Jaffe et al, 1995, Porter, 1995, King and Lennox, 2001; Epstein and Roy 2003; Schaltegger and Synnøestvedt, 2002 in Eweje, 2011a). However some have shown a negative or an inconclusive relationship between good initiatives and profitability (Jaggi and Freeman, 1992; McWilliams and Siegel, Wagner et al, 2002, Epstein and Roy 2003; Barnett and Solomon, 2006 all in Eweje, 2011a).

### **1.3 Corporate sustainability/sustainable development initiatives, practices and impacts at BAT Zimbabwe**

Ever since the year 2000, there has been a gradual shift by companies to reporting to their shareholders the ``good works`` in other s separate or combine financial and sustainability report Epstein and Roy 2003 and Eweje, 2011a). Like most companies BATZ has also been implementing corporate sustainability programmes, initiatives and other efforts for more than ten years (BATSA Annual Report, 2011). It also reports on sustainability annually as it is now the new culture of doing business in the group globally. In March of 2011, BAT published its latest 10<sup>th</sup> Sustainability Report focusing and committing to five areas in terms of its sustainability agenda (BATSA Annual Report, 2011). These are harm reduction, marketplace, environment, supply chain, and people and culture. From the same 2011 report mentioned above, BAT reports on both the Global Reporting Initiative (GRI) and the Global Compact of 2003, which includes a greater focus on policy dialogues and on increasing accountability and transparency in participants' compact-related activities.

#### 1.4 The BAT group “proclaimed” corporate vision for sustainability

The BAT global group vision, which is cascaded down to country level operations, is that of a “sustainable tobacco business that manages the impact of its operations and products, responsibly today and prepares for a future in which the company continues to create value for its shareholders as well as being “in the best interest of other stakeholders”. To this end the company has been working to align its business strategy with the expectations of society. The BAT’s sustainability agenda comprises five goals across key impact areas. They are to;

- “Strive to bring commercially “viable and consumer acceptable”, reduced-risk products to market”
- “Take a lead in upholding high standards of corporate conduct within the marketplace”
- “Actively address the impact of business on the natural environment”
- “Work for positive social, environmental and economic impacts in their supply chain”; and
- “Work to ensure that BAT has the right people and culture to meet its goals”



**Figure 1: BAT global and regional markets**

#### 1.5 Rationale of the research

According to Hamann et al. (2010), many MNCs try to demonstrate their innovativeness and effective ways in implementing sustainable development. The business world has increasingly played a proactive role in coming up with, and formulation of codes and standards, and utilises these to capture the growing green markets (Rutherford, 2006 in Haywood et al., 2010). To them it is about the business case for sustainability and sustainable development.

As sustainable development is about local livelihoods and well-being, looking at both the present and future needs, there is a need to investigate and validate the claims that BAT makes in terms of

responsible and ethical trading, social responsibility and sustainable business operations. Lastly I had a keen interest in sustainability of business and programmes alike. I was also interested in the degree to which sustainability initiatives are embedded within BATZ. Hence an investigation was done on selected programmes, parameters and initiatives.

## **1.6 Problem statement**

In recent years, there has been a great deal of attention paid to the notion of corporate sustainability, which has variously been defined as meaning the incorporation of social, environmental, economic, and cultural concerns into corporate strategy (Eweje, 2011: 155). Therefore, corporations, particularly those that have a global presence, are required to commit to sustainability strategies and practice as a means of expressing their support and commitment to the notion (Eweje, 2011: 155). The preliminary investigation suggests that MNCs are only worried about securing their license for operations and are never really worried about sustainable development, which entails the well being of local people. In other words MNCs seek to reward nominal owners only (McIntosh, 2003). In normative terms, organisations should understand their social and environmental impact, as well as their real financial performance, their role, scope and purpose, which they should be able to articulate well via their corporate vision, mission and value statements (McIntosh, 2003).

As only one-third of the companies listed on the London Stock Exchange publish environmental and social information that cover their entire operations, this points to the problem of realising and getting enough traction on sustainability and the sincerity of attempts by businesses to contribute toward sustainable development (McIntosh, 2003). As a company listed privately on various Stock Exchanges around the worlds, BAT could only be a viable company, given its years of operation; otherwise shareholders would not have continued investing in it. From the 2011 Financial Statements BAT has a healthy financial footing. One needs to ascertain whether this growth in revenue supports the link with sustainability strategies and wider benefits distribution. For me as a research it is not obvious from the BAT Sustainability of 2011 that enough tangible benefit have been trickling down to the local communities and other stakeholders like Government. According to McIntosh (2003) the real questions society and government then need to ask are: what role do corporations play in sustainable development; are they responsible, and can they be made accountable? (McIntosh, 2003). As sustainable development is about social justice, and a fair and just distribution of wealth, rights and opportunities, there is a growing consensus amongst those who think about ‘corporate citizenship’ that this will not happen voluntarily (Hamann et al., 2005). The state must demonstrate it has the capacity to “discipline” particular business interests to fit into the wider strategic direction of society (Gelb, 2006). Hence the problem that needs to be investigated is whether the corporate sustainability programmes and initiatives of BATZ are effective and represent a sincere attempt to contribute towards sustainable development. As Holliday et al. (2002) argue that as business is as much part of



society as fish are part of water, sustaining a company is as good as sustaining a planet, and both short and long term aspects need to be considered, as well as varying degrees in context.

### **1.7 Statement of the research problem**

Generally, this research is important to BAT Zimbabwe as an MNC, and to the direct beneficiaries of the corporate sustainability programmes and initiatives for whom it is implemented, as well as for the academic society. More specifically, this study:

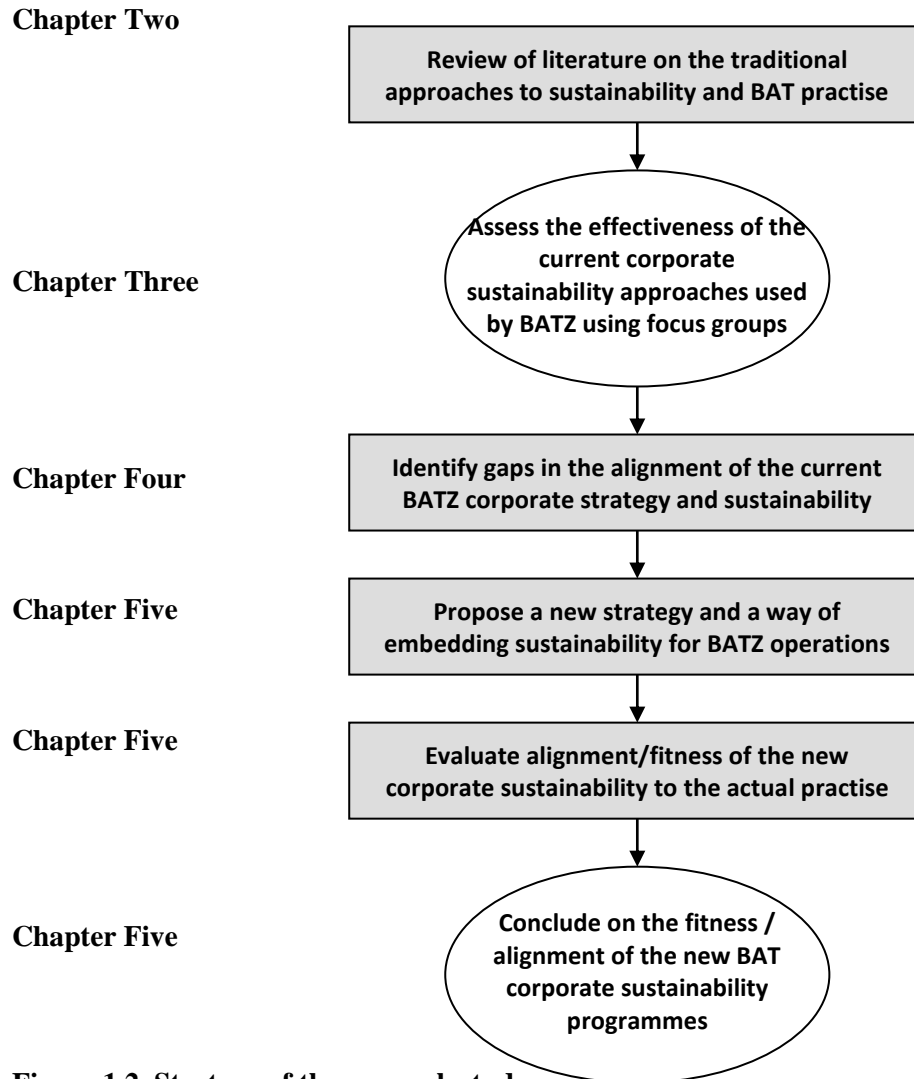
- (1) Serves to establish whether there is a link (and how strong it is) between BAT Zimbabwe top management philosophy and their corporate strategy, and the company's exposure to the wider social environmental and economic space;
- (2) Bridges the gap between the concept of (i) Sustainability and Sustainable Development and its practice today, and (ii) corporate citizenship and its practice in today's complex world; and,
- (3) Recommends ways of viewing, understanding and improving the effectiveness of corporate sustainability programmes and initiatives in the agricultural sector in general, and specifically to BAT.

### **1.8 Limitations and assumptions of the study**

Given the time allocation granted to me, I was not able to look at all aspects of the topic in as much depth as one would have wanted and perhaps this is one of the reasons why I had to delineate the topic a bit further. I used one-on-one and focus group discussions, where I had more than one meeting. Sometimes the challenge is that if one does not use key informants one might not get the right, relevant, timely correction information. In my case this was adequately addressed and perspectives were checked with both literature and key reports from the group. I worked with the BAT team much more closely and better, in scheduling visits by notifying farmers well in advance. I was allowed to conduct the research for a limited time as the company was in the middle of a planning session for the financial year (FY) 2012/13. I was also allowed access to top company confirmation and documentation; this was received with many thanks. I was also made to sign a confidentiality and non-disclosure form. In some cases complete sustainability programmes and initiative implementation records were found in the office and in the field site office.

### **1.9 Research approach, strategy and schedule**

Generally the research consisted of a comprehensive literature review with substantiated field research and focus group discussions. Individual interviews with key informants were carried out. I also read BAT Sustainability, financial and information reports. Figure 1 summarises the overall research strategy.



**Figure 1.2. Strategy of the research study**

### **1.10 Organisation of this thesis**

Chapter one will introduce the thesis with chapter two giving a detailed review of literature pertaining to sustainability, sustainable development and Corporate Social Responsibility in other corporations especially those with a global footprint like BATZ. Chapter three will show the methodology used to conduct this applied research with chapter four providing the research findings. Chapter five will summarise the applied research, give recommendations and will end with conclusions reached and also offering potential areas for further research.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 How the research was carried out**

This chapter reviews the literature that surrounds sustainability and sustainable development. The literature review is presented in four sub-sections and aims to provide an overview of different perspectives on sustainability and sustainable development. The first section looks at the implicit assumptions underlying the business world's perception of sustainability and sustainable development. Secondly the researcher reviews the notions of sustainability and sustainable development. The third section reviews the contextual emergence of the concept of sustainable development and sustainability and related definition(s). Following this section is a detailed and complex review of ethical values underlying the basis of sustainable development/sustainability. Later in the review I give an elucidation of the core and fundamental principles of socio-ecological systems and their relationship to business systems. I included in the review a whole section that reviewed Corporate Social Responsibility and Corporate Citizenship in the developing countries in order to give the reader what the various forms, drivers and manifestations of CSR and sustainability are in the corporate sector. I gave a review of the New Zealand corporate sector as summaries of interviews held by one researcher in order to find out how corporate leaders in that part of the world view sustainability best practise and which parameters they are currently looking at and measuring. The last sub-section under this main section looked at drivers of Corporate Social Responsibility. The last section reviews methodology in the measurement of sustainability performance. This was done to ascertain how other sustainability communities have approached sustainability. In concluding my review I included a subsection on environmental metrics for sustainability performance initiatives.

### **2.2 The implicit assumptions underlying the business world's perception of sustainability and sustainable development.**

The business world defines sustainable development as “adopting business strategies, and activities that meet the needs of the business and all its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future” (International Institute for Sustainable Development (IISD, 1990)). According to Haywood et al. (2010), sustainable development has offered the notion of being able to reconcile the conundrum of depleting natural resources and make it possible to view environmental protection and the economy as opposite sides of the same coin. They argue that, since the formation of world bodies like the World Business Council on Sustainable Development (WBCSD) and IISD the business world has seen an avalanche of definitions of what ensures that the goals of corporations are furthered and not compromised (Lafferty et al., 1997; Ketola in Haywood et al., 2010). It is argued that sustainable development has offered business an opportunity of doing “business as usual” as long as they report on the social, environmental and economic impact of their business. The implicit assumption is that sustainable

development principles will lead to growth and development within society that is sustainable (Azapegic, 2003; Haywood et al., 2010). What has been realised is that while it is good that businesses provide goods and services to the public, they use nature for accessing resource inputs and for waste disposal (Haywood et al., 2010). Yet on the negative side corporations have been named among the worst contributors of resource and environmental degradation in the face of worsening human development, poverty and inequality (Azapegic, 2003; Haywood et al., 2010). In the face of these worsening conditions there has actually been political intervention, such as coming up with and reaching the global Millennium Development Goals (MDG), that have been cascaded down to country and corporate levels for immediate implementation and measurement. Thus the implicit assumptions that underline (business) definitions and assumptions of sustainable development seem invalid (Haywood et al., 2010; Visser; 2009: 473). Hence for me the central research question is to ascertain to what extent are the philosophies, drivers and key motives behind BAT Zimbabwe in vigorously implementing and reporting on sustainability initiatives, practice, programmes and projects informed by the either drive for profit, international business standards and stock exchange listing requirements, societal, long term ecological sustainability of the ecosystem in which BAT Zimbabwe operates, laws of the country, public pressure or any other seemingly important consideration.

### **2.3 Notions of sustainability and sustainable development**

According to Sachs, Dresner and Hattingh (2005), the notion of sustainability and sustainable development is strongly linked to the historical overview which is primarily based on the notion of fair distribution of resources and livelihoods, first and foremost between rich and poor countries (intra-generational justice) and secondly between present and future generations (inter-generational justice). Basically their argument is that “if we are so passionate and serious about sustaining something, surely it must be passed to future generations and arbitrarily to the world’s poor as it is so valuable” (Hattingh, 2001: 9). Contrary to the anthropocentric orientation towards the concept of sustainability, it is arbitrary to pursue sustainable development in the pursuit of human interest, as one cannot successfully argue that it is only humans that have a vested interest in living, thriving and flourishing on earth (Hattingh, 2001: 11; Azapegic, 2003). Basically the point is that the *human other* should be seriously considered if we are to claim that we live in a fair, just and sustainable world. The integrity of nature for its own sake should also receive central consideration in the notion of sustainability or sustainable development (Hattingh, 2001:13).

Within the anthropocentric orientation of sustainability/sustainable development, it is possible to come up with two distinctions, one being egalitarian and the other being non-egalitarian notions. Egalitarian interpretation of sustainability places heavy emphasis on “raising the living standards of the poor and the destitute while the national and global resources should be distributed in favour of poor countries and individuals” (Hattingh, 2001:13; Gallopin, 2003). It also calls for a heavy

reduction of consumption of global resources and a significant reduction of the ecological footprint of the North in relation to the South (Hattingh, 2001:13). On the other hand proponents of the non-egalitarian view strive to keep their own living standards, placing heavy emphasis on the protection of resources and nature (Hattingh, 2001:13). It completely rejects change in consumption patterns and what are seen to be the key elements of international economic relations of the industrialized world (Azapegic, 2003). It advocates an imperialist regulation of the resources in the South by the North (Hattingh, 2001:13; Gallopin, 2003, Azapegic, 2003). To this end a minimalist interpretation would argue and maintain that sustainable development should focus only on the narrower issue of survival and a robust interpretation would argue that a broader range of issues should be considered. These include quality of life, needs of future generations and the integrity of nature for its own sake (Hattingh, 2001:13). This anthropocentric view, if taken to the extreme, will result in the earth system being totally artificialised if total substitutability of natural resources and services were possible (Sachs, 1999; Azapegic, 2003; Gallopin, 2003). They went on to say that the classical economist's view regards and relegates nature to the role of provider of resources and sinks for human activities (Gallopin, 2003). According to Turner, Galopin and Sneddon this is consistent with the concept of the notion of "very weak sustainability" (Turner, 1993 in Gallopin, 2003; Sneddon et al., 2006: 261). The "very weak sustainability" notion asserts that natural and manufactured capital is perfectly substitutable. The implication of this viewpoint is that preservation of an aggregate level of natural plus manufactured capital, rather than the preservation of natural capital in particular, is crucial (Gallopin, 2003). Nature's values are seen from an instrumental perspective only to further survival of humans and this is called the *precautionary principle* (Gallopin, 2003). According to Gallopin the precautionary principle and approach are important in order to incorporate appropriate levels of risk aversion in the face of uncertainty (Gallopin, 2003).

On the other hand ecocentric view would value ecological sustainability even if it means elimination of human, social and economic component systems and this is represented as an extreme "deep green" movement in complete opposition to the anthropocentric position (Gallopin, 2003). This viewpoint is consistent with the notion of "very strong sustainability" (Gallopin, 2003). The position advocates that manufactured capital cannot be exchangeable or substitutable with natural capital; they cannot be depleted without an irreversible loss in social welfare (Gallopin, 2003; Dresner, 2005). This position strongly favours and goes hand in glove with the more fundamental mode of ecological solidarity with the earth and all forms of life (Gallopin, 2003). An ethical pre-condition for the preservation of the environment prevails (Gallopin, 2003). This is called a bio-centric viewpoint.

Many economists believe that "weak sustainability" is actually good enough as sustainable development delivers on the assertion that the aggregate stock of both manufactured and natural assets is not decreasing (Wackernagel and Rees, 1996). From their forgoing arguments, manufactured capital makes up for the loss in the depletion of the natural resources (Wackernagel and Rees, 1996).

By contrast “strong sustainability” recognizes the “uncounted ecosystem services and life support functions performed by many forms of natural capital and the considerable risk associated with their irreversible loss” (Sneddon et al., 2006: 261; Wackernagel and Rees, 1996). “Strong sustainability” therefore requires that natural capital stocks are held constant independently of human-made capital (Wackernagel and Rees, 1996). Some writers make suggestions that manufactured capital stocks must be held constant for “strong sustainability” so that there is no capital depreciation (Wackernagel and Rees, 1996). To this end, Wackernagel and Rees further argue that “strong sustainability” is the ecological bottom-line condition for sustainability and sustainable development.

#### **2.4 The contextual emergence of the concept of sustainable development and sustainability**

It is not easy to give a full, but succinct account of the historical emergence of the concept of sustainable development and sustainability. As suggested by Achtenberg two relatively distinct contexts can be identified within which sustainable development and sustainability emerged and can be reasonably traced (Achtenberg 1994b in Hattingh, 2001: 4). The first context is that of the neo-liberal economic production and consumption models of the 1970s that the Western world developed (Hattingh, 2001: 4). This model seriously threatened the continued existence of a safe, healthy, clean and diverse environment (Wackernagel and Rees, 1996 in Hattingh, 2001: 4; Azapegic, 2003: 303). Ever since Rachel Carson’s published a book called *The Silent Spring* which appeared in 1962, a burgeoning literature has subsequently substantiated the concern for the deterioration of the ecosphere, man’s life support system at an alarming rate which, in a way, was also speaking to those unsustainable ways of living at that time (Wackernagel and Rees, 1996 in Hattingh, 2001). The mere adjustment of lifestyles could not be considered enough, as it was then perceived to be becoming more and more of a crisis. Evidently an “economy of enough” via international justice on the use of the world’s resources and joint consensus in decision-making was needed (Hattingh, 2001: 7). As Sachs et al (1999) later argued, if all countries followed the industrialized world’s example, the world would need up to six planets to serve as the source of inputs and sinks of wastes. By comparison to the global South, the global North was able to corner the gains that accrued from unification of the world for themselves (Sachs, 2002:26). So while the world might have developed, it had done so in two opposite directions (Sachs, 2002: 25). These development disparities, even today are also repeated in countries, in regions and on continents as there is an equality polarisation at work (Sachs, 1999: 26). This crisis of nature and development was later articulated and documented in various reports such as the *Limits to Growth* of the Club of Rome by Meadows et al., (1972). Although there were many voices that called for a structural adjustment to both the economy and social life, Herman Daly, with his proposal of the *Steady State* economy, became one of the most noteworthy (Hattingh, 2001: 4). In this first context the notion of sustainable development called for *Limits to Physical Growth* (Sneddon et al., 2005: 254 Hattingh, and 2001: 4).

The second contextual emergence of the sustainability/sustainable development concepts could be identified with a series of conferences of the United Nations over the years, which were concerned about economic growth, environment, development and equity (Achterberg, 1994 in Hattingh, 2001: 4). The Stockholm Conference of 1972 was the first one, which was then followed by the Rio de Janeiro Conference of 1992 (Hattingh, 2001: 4). Both conferences produced a number of key reports that also informed these conferences *per se* (Hattingh, 2001: 4). The most crucial of these reports were the *World Conservation Strategy* (1980), *Our common future or the Brundtland Report* (1987) and *Caring for the Earth: A strategy for sustainable living* (Hattingh, 2001: 4). The call by these reports was development (specifically for the poor) “within the physical constraints” of the ecological systems that it can sustain (Hattingh, 2001: 4). Poorer countries did not take it easy on rich countries due to what they said “the rich nations’ pre-occupation with the environment” and essentially what policies should be promulgated and implemented on the environment should this development path obtain (Hattingh, 2001: 4; Dresner, 2002). In this second context, the emphasis has been on a co-ordinated response to the environment, which should not come at the cost of the aspirations of poor countries to reduce poverty and reach a standard of living comparable with that of the richer nations, especially that of the West (Hattingh, 2001: 5 Dresner, 2002; Sneddon et al., 2005). The crisis of nature and the crisis of justice stand, with the perceived notion of development, in an inverse relationship with justice one another and nature on the other (Sachs, 1999). Something had to be done about this critical make or break situation, as it was no longer possible to have business as usual.

It is in this second context, and out of the Brundtland Report, compiled by the World Commission on Environment and Development (WCED) in 1987, that the definition of the concept of Sustainable Development (SD) was born. Today this definition is the most widely quoted and has become *totemic* in many development circles: “Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). The World Business Council for Sustainable Development (WBCSD) subsequently defined sustainable development as “all forms of progress that meet the needs of the present without compromising the ability of the future generations to meet their needs” (WBCSD, 1995: Haywood et al., 2010).

According to Dresner (2002) and Hattingh (2001: 5), what is often forgotten about these definitions when they are given is the implication of what the definition entails:

- The concept of needs, and in this particular regard the needs of poor of the world to which overriding priority should be given; and
- The limitation that the state of technology and social organization impose on the environment’s ability to provide both for the needs of the current and future generations.



From these frameworks, one can argue that a heavily anthropocentric approach to sustainable development and sustainability is taken, which means the instrumental value of nature to meet human needs (Hattingh, 2001: 5; Dresner, 2005). From this perspective the challenges facing the natural environment are primarily seen as management problems, which can be overcome by better technology utilization and management practices (Hattingh, 2001: 5; Dresner, 2002). According to Norton (1992 in Hattingh, 2001: 5), it also implies perfectly exchangeable natural capital and human and manufactured capital. Several key questions have been asked regarding the intrinsic value of nature and the result was not only the adoption of a soft approach to how nature is seen, treated and perceived but a further focus on the quality of life with the carrying capacity of nature (Norton, 1992 in Hattingh, 2001: 5). The ultimate argument being that a sustainable development path gives rise to a sustainable economy (Hattingh, 2001).

## **2.5 The ethical values underlying the basis of sustainable development/sustainability**

The most appropriate way of understanding the concept of sustainability and sustainable development is through a “dialogue of values” as different individuals, communities, pressure groups, institutions and governments are most likely to view them from completely different perspectives (Ratner n.d in Blewitt, 2008). Nine principles are espoused in the document called *Caring for the earth* as a vision for sustainable development/sustainability and are articulated in the *World Conservation Strategy Report*. Hattingh (2001:6) further articulated these values as:

- respect and care for the community of life as a duty to humans and non-human others;
- a responsibility and duty for the improvement of quality of life;
- vitality and diversity conservation on Earth;
- minimization of use of non-renewable resources to avoid their exhaustion;
- respecting and staying within the confines of the carrying capacity of the Earth;
- inculcating ethical living by changing our way of living and caring;
- empowering and enabling communities to care for their own environment;
- establishment of the integrated development and ‘conservation’ national framework; and
- global alliance for the formation of global strategy implementation (Hattingh, 2001:6).

In summary, these key values and underpinning ethical principles that reflect an essential prerequisite for the idea of respect for life put an emphasis on the crucial importance of nature and ecosystem services that include human life (Hattingh, 2001:7). The moral vision of the Earth Summit agrees with



the “egalitarian platform” which represents the most widely acted modern position in political philosophy (Hattingh, 2001:7). In its broadest sense the moral challenge can be articulated as moral choices of (a) intergenerational justice, (b) intragenerational justice and, (c) environmental protection and general respect off all life (Hattingh, 2001:7)

Ultimately the question that is asked by both (Achtenberg, 1999 and Hattingh is that; what is so valuable that it should be sustained? According to the two authors the correct attempted response and possible answer to this question lies in the approach that one follows in his or her philosophical perspective to sustainable development/sustainability. From the anthropocentric view, it is ultimately the *quality of life* that is so precious that it must be sustained. From the ecocentric view it is the *rich and the diverse nature* that should continue in a state of as little disturbance from humans as possible or with integrity, to support humans (Achtenberg, 1999 in Hattingh, 2001: 9). This presents one of the main fault lines of sustainable development and sustainability as this is where anthropocentrists and ecocentrists fundamentally clash as they come from two different ethical values system underlying their basis for sustainable development/sustainability (Jacobs, 1999; Hattingh, 2001: 9; Gallopin, 2003).

## **2.6 The basic concept of a system as a means for studying and understanding sustainability and sustainable development**

The basic concept of sustainability is a complex one (Gallopin, 2003). However it is quite possible to crystallise its basic components by adopting a systems approach to its study (Gallopin, 2003). By definition a system is a set of interrelated elements (or subsystems) (Gallopin, 2003; Du Plessis, 2008: 600). These elements could be molecules, organisms, machines or their parts, social entities, or even abstract concepts (Gallopin, 2003). Hence we have systems like ecological, economic, biological, psychological, social, comparative religion, indigenous knowledge etc (Du Plessis, 2008: 61).

The relationships, interlinkages or couplings between the elements of a system could also have different manifestations, namely flows of matter or energy, control pathways, and economic transactions, among others (Gallopin, 2003). All physically existent systems are open systems since by definition and nature they experience exchanges of energy, matter and information with the physical environment that are vital for their functioning (Gallopin, 2003 and Du Plessis, 2008: 60). Therefore the state of the system is determined by the previous states of the system components and by the various inputs received by the system in the last period of time (Gallopin, 2003). This can be best represented by the canonical definition of a finite-state general system (Gill, 1969 in Gallopin, 2003). What should be very clear is that when one is studying and understanding sustainability and sustainable development, it is necessary to specify whether one is interested in the sustainability of the outputs from a system, or in the sustainability of the system as a whole, as the implications may be quite different (Gallopin, 2003).

According to Du Plessis (2008: 61), in systems like the economic system, there is increasing awareness of the global interconnectedness (and intertwining) of both ecosystems and economic, resulting in the emergence of a new worldview based on primarily two major shifts (Du Plessis, 2008: 61). The first one is from a mechanistic, reductionist worldview to relational, whole system thinking or (from part to relationship and from structures to processes), the other being from thinking of humans as separate from, and in competition with nature, to accepting humans as part of, and co-evolving with nature (Du Plessis, 2006 in Du Plessis, 2008; 62). Therefore what the system “does” depends not only on the system itself but also on other factors, elements, and variables coming from the environment of the system that is impinging on it (Gallopín, 2003). On the other hand the system generates variables that exert pressure on the environment (Gallopín, 2003).

## **2.7 Socio-ecological systems and the notion of sustainable development/sustainability**

One of the main reasons why efforts aimed at improving sustainability are not yielding significant and lasting results, is that solution seekers in business, science, government and the research community are still operating in the same old paradigm of thought, using basically the same tools and adopting the same world views that threaten sustainability in the first place (Fiksel, 2003, du Plessis, 2008: 60; Haywood et al 2010). The three authors separately further argued that it needs to completely changed from a mechanistic system to a holistic worldview (Plessis, 2008: 60; Haywood et al., 2010). To this end Capra suggested that business needs to understand and appreciate the fact that it is embedded in the ever changing and cyclical processes of the socio-ecological system in which it operates (Capra, 1997 in Haywood et al., 2010). In fact business must stop thinking of itself as a separate entity as it is depends on the socio-ecological system services for inputs and waste disposal. Naess implied a continuous connection and sense of one being (nature and man) which one cannot separate between nature and man (Devall, 2001). Therefore man can never see himself as a separate entity competing with nature, as it is part of, and is co-evolving with nature (Du Plessis, 2008: 62).

Pezzoli argued that these two systems, nature and society `s progress and development are inherently affected by one another and it leaves an imprint of one another in the geography of development (Pezzoli, 1997). In 1993, Richerson illustrated mutual interactivity of society and environment using rise and fall of civilisations, which he says significantly, indicates elusiveness of sustainability concept (Richerson, 1999). Exogenous environmental shocks, endogenous political and economic changes and endogenous political and economic changes are also plausible factors, which may give rise and fall of that civilisation (Richerson, 1993). According to Zimmer, this integration of new ecology and human geography is inspiring a deep re-think of human-environment interrelations (Zimmer, 1994). According to Pezzoli, holism and co-evolution is an integrated, co-evolutionary understanding of social economic and ecological linkages (Pezzoli, 1997). Haywood et al. (2010) argue that if business sees the dynamic nature and relationship between nature and society in which it

operate as part of the system, it will easily understand how it depends on it and be able to develop better risk and uncertainty strategic management strategies, so that it can be more resilient and better adaptable. This, according to Haywood et al, will make business better able and closer to achieving long-term sustainability (Haywood et al, 2010). This idea is further highlighted in Table 2.1 below.

**Table 2.1. The specific theories of sustainability that relate to performance metrics for business.**

<b>Theory</b>	<b>In the Context of Sustainability Science</b>	<b>In the Context of Performance Metrics for Business</b>
Trans-disciplinary	The result of co-ordination of discipline e.g. nature and law	Where successful transformation of technologies into marketable commodities requires knowledge and skills from a variety of different socialised fields of science and engineering.
Resilience	A system's ability to bounce back to reference state after a disturbance and the capacity to retain characteristic structures and functions, Where ecological resilience is based on the demonstrated property of alternatives stable in ecological system, resilience is conferred in human and ecological terms.	The resistance and robustness of an integrated system against surprises, which include risk-based measures and precautionary regulations, the capacity to buffer change, learn and develop.
Complexity	From a biological perspective: "that understanding of how the parts of a biological system, - genes, molecules – interact is just as important as understanding the parts themselves: 'complex interactions' of natural systems that are not chaotic". Furthermore, the growing appreciation of the need to work with affected stakeholders to understand the full range of aspects of any particular system.	Deals with the study of complex systems that are composed of many interacting elements that interact in complex interactions structures with few parameters.
Adaptive Management	Adaptive resource Management is an iterative process of optimal decision-making in the face of uncertainty, with an aim to reduce that uncertainty over time via system monitoring.	
<b>Adaptive capacity</b>	<p>As applied to human social stems, the adaptive capacity is determined by:</p> <ul style="list-style-type: none"> <li>• The ability of institutions and networks to learn and store knowledge and experience.</li> <li>• Creative flexibility in decision making and problem solving</li> <li>• The existence of power structures that are responsive and consider the needs of all stakeholders</li> </ul> <p>Adaptive capacity is association with r and k selections strategies in ecology and with a movement from explosive positive feedback to sustainable negative feedback loops in social systems and business.</p>	

**Source:** Haywood et al., 2010

## 2.8 An elucidation of the core and fundamental principles of socio-ecological systems and their relationship to business systems

One of the fundamental principles of socio-ecological systems is that they are complex and have properties for adaption, self-organisation and emergence (Mebratu, 1998; Du Plessis, 2008: 63; Carpenter, Walker, Anderies and Abel and Holling, 2001: 766; Du Plessis, 2008: 62; in Haywood et al, 2010). How these principles show themselves up in real business situations are shown in the table above. According to Gallopín (2003), the state of a socio-ecological system can be represented by a point in a multidimensional “state space” defined by all possible values of the variables that define the ecological (or natural) system and the human subsystem. As key and leading researchers in the socio-ecological systems of thinking have noticed, there is a shift happening towards an understanding of an adaptive systems management perspective, which is moving away from traditional prediction and control perspectives (Du Plessis, 2008: 63; Haywood et al, 2010). This has come about as a result of the fact that phenomena have become more complex and very unpredictable in frequency of occurring, magnitude of change, predictability and threshold effects (Walker et al, 2002, Burns, Audouin and Weaver, 2006; Korhonen and Seager, 2008 in Haywood et al, 2010). Haywood et al further argue that resilience has emerged as one of the key and critical characteristics of complex systems (Pezzoli, 1997; Haywood et al, 2010). As defined by Carpenter, Walker Anderies and Abel (2001), resilience is a magnitude of disturbance that can be tolerated before a socio-ecological system moves to a different region of state space controlled by a different set of processes (Carpenter, Walker Anderies and Abel, 2001: 765).

Other researchers defined the same word resilience as the capacity of the system to absorb disturbances and adapt to change so as still to retain function, structure and identity (Pezzoli, 1997; Walker, Holling, Carpenter and Kinzig, 2004, Walker, Gunderson, Kinzig, Folke, Carpenter and Shultz, 2006 in Haywood et al, 2010). In trying to understand the resilience of a stem, researchers must clearly define resilience in terms of what *to* what (Korhonen and Seager, 2008; Carpenter, Walker Anderies and Abel, 2001:767). Just as “residence” can be achieved in one time period at the expense of residence in a succeeding period, “residence” at one spatial extent can be subsidized from a broader scale (Carpenter, Walker Anderies and Abel, 2001: 767). For businesses it is the ability to survive, adapt and grow in the face of turbulent change (Carpenter, Walker Anderies and Abel, 2001: 766; Haywood et al, 2010). It is therefore understandable how management principles applied to the running of any business operation can destroy or build resilience depending on how the socio-ecological systems are organised in response to management ways of running business (Pezzoli, 1997; Mebratu, 1998; Haywood et al, 2010).

According to Walker et al, resilience is therefore the inbuilt potential of the socio-ecological system (which in this case includes business) to remain in a particular configuration and to maintain its

feedbacks and functions but also to be able to organise itself in the face of a disturbance or happening (Walker et al, 2006 in Haywood et al , 2010). According to Folke et al, it is then the coping, adaptation (which may lead to a new equilibrium) and re-organising ability of socio-ecological systems to themselves, while at the same time being able to provide ecosystem services (Pimm, Tilman and Downing, 1994 in Carpenter, Walker Anderies and Abel, 2001: 755; Folke et al, 2002 in Haywood et al 2010). Haywood et al argued that one of the aspects of resilience is adaptive capacity that then reflects learning, flexibility and, solving of problems, decision making, and storing of knowledge, and therefore resilient businesses are able to grow in the face of uncertainty and unforeseen disturbances and disruptions ((Du Plessis, 2008: 67 and 78; Haywood et al, 2010).

The argument proposed by Korhonen and Seager (2008) is that when an organisation is able to change practice, resource allocations, designs and relationships or any other significant aspect of business in relation to changing conditions, then it is able to adapt (Korhonen and Seager, 2008 in Haywood et al, 2010). They went further to say that some of the competent strategies for adaptability are technological and re-engineering on a resilience trajectory in order for the socio-ecological system to remain recognisable, having all the key elements of the original acceptable ecological state, (Korhonen and Seager, 2008 in Haywood et al, 2010). In this regard adaptability also means and implies the ability to learn and change. According to Walker, it is about understanding the system in which one operates and understanding the resilience of that particular system and how best it can adapt to ensure survival and economic viability within the system (Walker et al, 2002 in Haywood et al, 2010). In the process of deepening social and environmental justice and equity is a quest to understand and link economic, environmental and social justice, equity and governance, one can make a distinction between conventional nature and environmental pressure groups and alternative ones with the latter embracing the more traditional role of social claims about equity, empowerment and daily concerns (Mebratu, 1998; Gottfried, 1993). Below is a table showing how the principles of socio-ecological systems manifest in corporate South African.

**Table 2.2: Manifestation of the principles of socio-ecological systems in the corporate South African.**

Corporate Sustainability	Drivers enabling conditions for sustainability	Manifestation of Social Ecological Systems principles
Action /Responses	<ul style="list-style-type: none"> <li>• Business case for sustainability</li> <li>• International codes and standards for export</li> <li>• Johannesburg Sustainability Index</li> <li>• Corporate reputation</li> <li>• Resource efficacy and money saving</li> </ul>	Currently South African business sustainability is not driven by a systems approach. Currently actions and responses are reactive and not proactive.

	<ul style="list-style-type: none"> <li>• External shareholders</li> <li>• Internal Shareholders</li> <li>• Global Climate change</li> <li>• Greater licence to operate.</li> <li>• Government regulation</li> <li>• Certification (environmental certification)</li> </ul>	
Implementation of corporate sustainability	<ul style="list-style-type: none"> <li>• Risk assessment and strategies</li> <li>• Waste Policy</li> <li>• Energy Policy</li> <li>• Procurement Policy</li> <li>• Sustainability Reporting</li> <li>• Health, Safety and environment</li> <li>• Marketing Tool</li> <li>• Environmental Report and Assessment (EIA and LCA)</li> </ul>	In the current implementation aspects of adaptive management however, in the light of uncertainties, there is room for improvement, taking into consideration resilience and complexity
Impacts of corporate sustainability	<ul style="list-style-type: none"> <li>• Better management of Risk</li> <li>• Enhancing Reputations</li> <li>• Freedom to Operate</li> <li>• Access to Financial Markets</li> <li>• Staff Motivation and Retention</li> <li>• Eco-efficiency</li> <li>• Transparency in Reporting</li> <li>• Promotion of re-cycling.</li> </ul>	Areas of collaborative learning for socio- ecological systems management ( adaptive learning)

**Adapted with changes from Haywood et al., 2010**

Today businesses face real risks and challenges to both our ecological and social systems and the current business mind-set will do little to circumvent such an unfortunate situation (Haywood et al., 2010). There is a need to find out at what points along the socio-ecological system, businesses need to operate to increase resilience, as there is a need to develop modelling and decision-making approaches and tools that support dynamic, adaptive management, rather than static optimisation.

### **2.8.2 Health problems related to tobacco smoking and sustainable development.**

Tobacco has been around for centuries and in fact it played a major history of the United States (Berrettini, 2009). Scientific evidence that cigarettes are harmful and addictive began mounting in the 1940s. The primary ingredient in tobacco products that keeps people coming back for a cigarettes is nicotine, a naturally occurring chemical which plants produce as a natural differences against animals.

A typical cigarette smoke contains about 4,000 chemicals. Dozens of these are known as carcinogenic or cancer causing. Toxic gases produced by lit cigarettes include carbon monoxide, hydro cyanide, formaldehyde and ammonia. Cigar smoke also contains tar, which accumulate in the lungs over time contributing to diseases such as bronchitis, emphysema and lung cancer. Too much nicotine will cause a person to feel dizzy and nauseated but in small doses it produces pleasure experience leading to many people dose themselves repeatedly throughout the day. Smoking by pregnant women may result in foetal injury, premature birth and low birth weight. The World Health Organisation (WHO's) research estimate that of the 9 billion-world population projected by 2050, it is estimated that about 2 billion of these will be smokers (WHO, 2011; BATSA 2011).

According to Centers for Disease Control and Prevention (CDC), more deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined (CDC, 2010). Smoking causes an estimated 90% of all lung cancer deaths in men and 80% of all lung cancer deaths in women (CDC,2010). An estimated 90% of all deaths from chronic obstructive lung disease are caused by smoking (CDC, 2010)

According to CDC Compared with nonsmokers, smoking is estimated to increase the risk of:-

- coronary heart disease by 2 to 4 times,<sup>1</sup>
- stroke by 2 to 4 times,<sup>1,6</sup>
- men developing lung cancer by 23 times,<sup>1</sup>
- women developing lung cancer by 13 times,<sup>1</sup> and
- dying from chronic obstructive lung diseases (such as chronic bronchitis and emphysema) by 12 to 13 times( CDC,2010).

Although nicotine is the rewarding component of the cigarettes, it is not the causes of many diseases that trouble smokers such as lung cancer, heart attacks and strokes but many of the thousands of other chemicals in the cigarette are responsible for the increases risk for these diseases among smokers (Berrettini, 2009). In some cases, medical research has identified cancer-causing chemicals in the burning cigarettes.

One of the main problems of smoking also involves addiction, which I defined as a pattern of behaviour, lasting months to years, in which a person engages in the intense, daily use of pleasure – producing activity like smoking and this type of use has medically and personally negative effects for the person. Nicotine is as addictive as heroin or cocaine. Research has also shown that if a teenager smokes at least one cigarette daily for a month, that person has 80% chance of becoming a lifetime, nicotine-addicted, daily smoker, with all the negative consequences. For teens the eye –catching images, along with catchy slogans, have been particularly powerful. According to the U.S Department of Health and Human Sciences (HHS), about 90% of the smokers start the habit when they are



teenagers (HHS in Berettini 2009, undated). According to the ALA, despite the many risks, teens continue to light up. Every day, approximately 4,000 young people between the ages of 12 and 17 try the first cigarette and also every day about 1,140 teens become regular smokers, 1/3 will eventually die from smoking. Over the years tobacco markets developed other ways of reaching young people.

The American Cancer Association has estimated that about 438,000 are claimed but smoke related diseases like lung cancer, emphysema and heart diseases and about 3,400 deaths are caused by second hand smoker and about 46,000 due to heart diseases.

What does this mean to BAT?

## **2.9 A shift in corporate practices: A change in sustainability/sustainable development strategies**

### **2.8.1 Factors affecting corporate sustainability practices and initiatives**

The persistent call for corporations to be socially and environmentally responsible originates from sustained pressure exerted by a range of stakeholders like customers, communities, employees, governments, and shareholders (Sethi, 2003; Epstein, 2008; Hess & Warren, 2008; Sarkar, 2008). In the face of a tough emerging global operating environment and growing sensitivity toward social and environmental issues, business leaders, particularly those from the developed world, are vigorously promoting sustainable development/sustainability and making it a reality through initiatives, practices and projects (Epstein and Roy 2003; Eweje, 2011a). This is also in recognition of the importance of sustainability initiatives and practices as a crucial survival strategy and platform. According to Berger et al (1984) it can be argued that this act by business leaders shows that businesses have added two seemingly unrelated bottom lines to the traditionally financial focus; one being the social and the other being the environmental focus (Ewe, 2011a). As argued by Sethi, and others, the business's stakeholders, such as customers, communities, employees, shareholders and government, have been making repeated calls for corporations to be both socially and environmentally responsible (Epstein and Roy 2003; Sethi, 2003; Epstein, 2008; Hess and Warren, 2008; Sarkar, 2008 in Eweje, 2011a). This is mainly coming from the argument that business can play a significant role in advancing society towards sustainable development by reducing environmental deterioration, poverty and general social inequity (Epstein and Roy 2003; Eweje, 2011a). According to Eweje (2011a), Epstein and Roy (2003) corporate sustainability is the incorporation of social, environmental, economic and cultural factors in the running of business. By using the Dow Jones' definition Mandelbaum in Eweje (2011a) also defined corporate sustainability as "a business approach that creates long term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments").



Berry, Rondinelli and many other researchers argue that sustainability embodies the promise of moving society towards a developmental path of equitability and wealth that are reconciled by natural environmental and cultural achievements for all (Berry and Rondinelli, 1988; Azapegic and Perdan, 2000 in Azapegic, 2003; Dyllick and Hockerts, 2002 and Kolk, 2003 in Eweje, 2011a). It is in this regard that corporates, especially those operating globally (i.e. those with global presence), have undertaken to accept the principles of sustainable development and sustainability, especially that they will not harm neither the environment nor society (Hart, 1996 in Eweje, 2011a). To this end corporates thus comply with strict compliance laws, and also protect their business images, ethically speaking, in the process they avoid serious business liabilities in operational space, and satisfy the health and wellness of their employees and respond to government regulation, while still remaining competitive (Epstein and Roy 2003; Berry and et al, 1984 in Eweje, 2011a). It is becoming increasingly clear that the quest for sustainability and SD requires integrating economic, social, cultural, political, and ecological factors in dealing with these issues, (Gallopini, 2003). The system approach is a perspective is a view of thinking in terms of connectedness, relationships and practical context (Gallopini, 2003)

### **2.8.2 Initiators and custodianship of business sustainability and sustainable development practices initiatives and projects in the corporate world**

The practical action of integrating sustainability thinking and practice into organisation culture (or its DNA) and structure is not a trivial task and it needs a vision, commitment, management and leadership (Epstein and Roy 2003, Eweje, 2011a). Management should be the initiators and custodians of societal change via business operations (Davis, 1991; Hussain, 1999 in Eweje, 2011a). In a research study of 15 New Zealand companies, most of them showed that they have a keen interest in sustainability and demonstrate that it as an integral part of their business policy and in two of his 2011 articles on the New Zealand corporate sustainability research, Eweje argued consistently that many companies have institutionalised and made sustainability a corporate bureaucracy (Eweje, 2011a). In 1997, Fineman argued that the symbolisation of such acts has been the establishment of stand-alone departments of environments, mission statements, environmental and social intents being put in place companies (Fineman, 1997 in Eweje, 2011a). In operationalising the WCED's definition on sustainable development, Bowen advised that policy makers and business strategist have "to develop appropriate social and environmental strategies and plans of implementation and `corporate greening`" (Epstein and Roy 2003; Bowen, 2002 in Eweje, 2011a). According to Ramus and Killmer, corporate greening is the change of organisational practice (Ramus and Killmer, 2007 in Eweje, 2011a). According to the two authors corporate greening will have business benefits in reducing expenditure, liabilities, insurance costs and increased reputation as key aspects of business (Azapegic, 2003; Ramus and Killmer, 2007 in Eweje, 2011a).

The environmentally and socially damaging neo-liberal industrial production model forced corporations and their management to see negative consequences of their activities and made them take urgent action and have a long-term view of their business operation (Eweje, 2011a). According to Dyllick, the definition and concept of sustainable development is perceived in business circles to mean “meeting the needs of a firm’s direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders (Dyllick et al, 2002 in Eweje, 2011a). In the same vein according to Sze`kely and Kirsch (2005), business sustainability “involves sustaining and expanding economic growth, shareholder value, prestige, corporate reputation, customer relationships, quality of products and services etc”. It also means pursuing ethical business practice, creating sustainable jobs, building value for all the company’s stakeholders and attending to the needs of the underserved (Epstein and Roy 2003; Sze`kely and Knirsch, 2005 in Eweje, 2011 Eweje, 2011a).

Many writers have criticized company management for not paying enough attention to the impact the social and environmental of operations of their companies due to what they named “a lack of understanding” of the fact that environmental and social issues have become part of economic reality (Buchholz, 1993; Dehant and Atman, 1994; Welford, 1994; Jaffe et al, 1995; Porter, 1995; King and Lennox, 2001; Epstein and Roy 2003; Schaltergger and Synnestvedt, 2002 in Eweje, 2011a). Other authors have argued that environmental and social issues seem to influence both costs and income of the corporate and therefore seem to have a more or less direct effect on the economic success of the company (Epstein and Roy 2003; King et al, in Eweje, 2011a). In both articles of his research Eweje seems to suggest that although it is inconclusive, the choice of an organization or business to operate in a clean environment seems to (result in) better financial performance (Eweje, 2011a). Hence King argues that there is a link between lower pollution and higher financial performance (King, 2001 in Eweje, 2011a). Epstein further argued that implementing sustainability practices and initiatives can result in improved international competitiveness of a company and hence may, unintentionally or intentionally attract closer scrutiny of the company’s process and production by both interest and pressure groups, which may also result in better product design, product and service quality, production efficiency and environmental improvements (Epstein and Roy 2003; Epstein, 2008 in Eweje, 2011a). There have been a few empirical studies that have shown that there is a positive relationship between greening and financial relationship, and significant negative returns were shown for companies faced with social and environmental crises (Russo et al, 1997; Banerjee, 2002 in Eweje, 2011a). Epstein and Roy (2003) suggested that they are not consistent but generally have such an orientation.

Regulation can spur companies to develop innovative practices that are known to reduce social and environmental impact and improve operational efficiency (Epstein and Roy 2003; Dean and Brown, 1995; Porter et al, 1995 in Eweje, 2011a). Other scholars have demonstrated that regulation is quite damaging in terms of financial performance of the company (Lave, 1993, Christiansen and Haveman,

1981, Conrad and Morrison, 1989 in Eweje, 2011a). To this end Darnall stated that understanding the potential link between regulatory stringency, and green production, in as far as they hinder financial opportunities, is important to both public and business sustainability debates (Darnall, 2009 in Eweje, 2011a). This has become useful in the view of the fact that as the “business” of sustainability has become meaningless; businesses have to make social and environmental responses that make relevant impact, in order to remain competitive (Banerjee, 2002, Epstein and Roy 2003; Epstein, 2008 in Eweje, 2011a).

According to Roy et al, the Board, senior corporate managers and line staff have the task of not only crafting competitive sustainability strategies but also of balancing or reconciling the social and financial imperatives and needs of the business (Epstein and Roy 2003; Epstein and Roy, 2001 in Eweje, 2011a). In New Zealand while the broader concept of sustainability is largely understood by business, discussions are, however mostly centred on environmental sustainability, and the social dimension is inadequately discussed or completely misunderstood (Eweje, 2011a).

## **2.9 Sustainability Reporting, Assurance, Management and Governance in Corporate systems**

The persistent criticism and pressure to report on the negative consequences of business on the social and environmental impact resulted in corporates putting pressure on themselves to report on preventive work in combating the negative “externalities” which resulted from production and international trading (Kolk, 2003 Eweje, 2011a and Eweje, 2011b). To this end, if companies see value in sustainability work, they cannot help but want to report on it (Eweje, 2011a). Eweje defined company’s sustainability reporting as the “act of measuring, disclosing, and being accountable to organisational performance while working to achieve sustainable development goals” (Eweje, 2011a). Of note is that the first recorded environmental report was published in 1989 and ever since then, there has been a significant increase in company reporting with the triple bottom line focus (Wills, 2003; Kolk, 2004 and Gray 2006 in Eweje, 2011a). According to Willis, the main aim of reporting is to come up with and develop a “voluntary reporting model” that would ultimately bring sustainability reporting up to the equivalent of financial reporting in rigour, comparability, auditability and general acceptance (Willis, 2003 in Eweje, 2011a). According to Kolk, while the whole sustainability reporting practices and tendencies have increased over the years there are clear differences in how they are done, both across countries and industries (Kolk, 2004 in Eweje, 2011a).

Corporate sustainability is incomplete without an understanding by senior management and corporate relationships with broader stakeholders of confronting sustainability challenges and opportunities (Eweje, 2011a). He further argued that it takes leadership (and a certain type of leadership) to integrate the sustainability agenda (i.e. initiatives and practice) into the broader business structure, as it needs

vision, commitment and leadership (Azapagic, 2003; Epstein, 2008 in Eweje, 2011a). Azapagic went on to argue that it takes a systems approach within an appropriate framework to enable what she calls the “design, management and communication package” of the various initiatives of sustainability that the company will be implementing, and that needs to be taken via corporate policies (Azapagic, 2003). If industry is to demonstrate continuous improvement of the social, economic and financial bottom lines it has to demonstrate that within the evolving governance initiatives” (Azapagic and Perdan, 2000 in Azapagic, 2003). Epstein further emphasised the roll of leadership in implementing sustainability initiatives (Epstein, 2008 in Eweje, 2011a) in which he argued that the commitment of Management and the Board can mean achieving traction on the ground as a significant number, if not all employees of the organisation will most likely buy into the corporate policy and company strategy.

## **2.10 Measurement of sustainability performance**

According to Feng, Joung and Li, (n.d) the two main reasons why sustainability is measured, are for sustainability accounting and impact analysis. Sz`ekely and Kirsch (2005) articulated that many large and medium-sized companies have initiated a variety of sustainable development/sustainability practices and have also integrated sustainability strategies in their business. However they reported that progress in implementing these initiatives are difficult to understand and make comparisons with similar organisations (Sz`ekely and Kirsch, 2005, Feng, Joung and Li, n.d).

### **2.10.1 Methods and tools to measure corporate sustainability performance**

Companies are increasingly being asked by their stakeholders to provide more and better information with regard to how they identify and manage social, environmental and economic issues (Sz`ekely and Kirsch, 2005, Feng, Joung and Li, n.d). Due to the diverse nature of reporting practices on the subject of sustainability, it is clear that comparative analysis of sustainability is a complex task (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d), more so when, one is considering the accuracy of the information provided by industry (Sz`ekely and Kirsch, 2005). The most difficult aspect to measure is the social dimension. The economic aspect (internationally accepted standard of measures) is relatively easy to measure, as is the environmental aspect (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d). Sz`ekely and Kirsch further argue that a standard measurement procedure is required to make greater comparability of sustainable policy and even annual movements in implementation of the sustainability agenda possible. (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d). There are still key challenges that have been noted through research that need to be addressed in this regard. The one is the clear link between sustainability and economic performance and the other is the cohesion of sustainability parameters into quantifiable indicators that business and financial managers can use (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

There are various ways and methodologies that have been developed over the years to measure the sustainability performance of companies. These include, but are not limited to: surveys, award schemes, investor criteria, benchmarking, sustainability indices, external communication tools, accreditation processes, standards codes and practice, sustainability indicators, metrics for sustainability performance, OECD Core Set of Environmental Indicators, the OECD Toolkit, non-quantifiable sustainability initiatives are summarised in Table 2.2 (Székely and Kirsch, 2005; Feng, Joung and Li, n.d).

### **2.10.2 Surveys as a measure of sustainability indicators (SI)**

Surveys are made up of both internal and external studies and they examine the different ways stakeholders perceive the environmental performance of a given company (Székely and Kirsch, 2005; Feng, Joung and Li, n.d). They are carried out by business lobbies like WBSD, industry, NGOs, professional associations, international organisations, the academia, institutions etc (Székely and Kirsch, 2005). Experience has shown that surveys are not objective as they mostly reflect opinions and do not provide the hard core data and information necessary to make an assessment of the sustainability performance of the company (Székely and Kirsch, 2005). It has also been pointed out that surveys do not have a methodological framework (Székely and Kirsch, 2005).

### **2.10.3 Award Schemes on sustainability performance.**

Sustainability awards are presented by initiatives that publicly recognise business and industries that are striving towards reducing an impact on the environment, innovating environmentally friendly products and incorporating sustainability principles into their business strategies (Székely and Kirsch, 2005; Feng, Joung and Li, n.d). On international and other levels, there have been many awards that have sought to put businesses in the public spotlight by acknowledging them as sustainability leaders. Research has also shown that the number of sustainability and public awards has increased over the years and are actually causing sponsorship and entrants problems (Székely and Kirsch, 2005). According to Székely and Kirsch, award schemes are primarily meant to improve the design, operation and effectiveness of the scheme and there are over 300 awards in the environmental and sustainable development sectors (Székely and Kirsch, 2005).

### **2.10.4 Investor`s criteria on sustainability performance.**

Arguably the financial community realises the (critical) importance of corporate social responsibility (Székely and Kirsch, 2005). In this regard, financial markets are increasingly asking for the environmental and social performance status of different companies before taking decisions to invest (Székely and Kirsch, 2005; Feng, Joung and Li, n.d). According to CSR Europe, the financial community sees a clear link between non-financial risk and shareholder value (Székely and Kirsch,

2005). Socially Responsible Investment (SRI) makes surveys that ask participants to rank companies based on:

- (a) **Negative screening:** exclusion of companies or industries based on inability to meet various social, ethical and environmental criteria,
- (b) **Positive screening:** actively including companies in certain investment portfolios based on their performance on addressing and dealing with social, environmental and ethical issues
- (c) **Engagement:** the use of investors for robust dialogue in order to introduce alternative corporate behaviour in relation to social, environmental and ethical issues, and
- (d) **Shareholder activism:** the exercise of shareholder power through general protest at annual meetings in support of SRI- related resolutions (Sz`ekely and Kirsch, 2005).

#### **2.10.5 Benchmarking on sustainability performance.**

This involves comparing companies to a reference point and not merely copying various observed company or business practices (Sz`ekely and Kirsch, 2005). It is about copying “the best of the best” after careful observation through “study trips”. It focuses on processes and practice and involves business process re-engineering, with a flow chart on how to reduce production inputs and increase outputs at each stage (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

#### **2.10.6 Sustainability indices for measuring sustainability performance.**

In order to provide guidance to investors, an array of indices has been developed (Sz`ekely and Kirsch, 2005). The Dow Jones Sustainability Index (which was established in 1999) and the FSTE4Good (which was launched in 2001) are the most popular ones. Both indices have European origin and derivation (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

The Dow Jones was the first index that attempted to assess the ability or inability of business to create and make long-term shareholder value by embracing opportunities and management of risks deriving from economic, social and environmental developments (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d). It looks at the “best in class” and tries to assess potential future value.

These indices are easy to use and investors can develop “best-in-class” companies thereby obtaining a quick non-financial risk estimate. Because they rely on self-assessment, the Dow Jones index draws its assessment from this aspect (Sz`ekely and Kirsch, 2005). SAM research makes identification of the sustainability leader possible on the Dow Jones sustainability matrix (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

Designed by FTSE, the FSTE4Good index is a social responsibility investment index representing a series of trading indices facilitating investment in companies with a good and honourable track record of CSR (Sz`ekely and Kirsch, 2005). The criteria are regularly revised in a widespread market consultation, in order to reflect the evolving standards of responsible business practice and development in the socially responsible investment arena (Sz`ekely and Kirsch, 2005). In the FSTE4Good index the environment and human rights aspects were strengthened (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

#### **2.10.7 Standards and codes for sustainability performance.**

There are several reasons why companies adopt international standards and codes and use assurance providers. Some of these are: to build trust and credibility; to meet legal requirements; to gain certification; to gain or restore stakeholder value; to improve management systems etc (Sz`ekely and Kirsch, 2005). The International Standardisation Organisation (ISO), which is a full member of the Agency of the United Nations System has established a number of international standards in the area of environmental and social performance (ISO 14000 series) (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d). All these standards are based on three elements of sustainable development, namely economy, society and environment (Azapegic, 2003; Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

#### **2.10.8 AA1000 Assurance Standard**

This covers the organisation`s disclose and organisation`s sustainability performance (Sz`ekely and Kirsch, 2005). Its main goal, as stated by **AccountAbility** (a company in sustainability accounting, auditing and reporting services) is to secure the quality of sustainability accounting, auditing and reporting. It also receives regular updates from Accountability.

#### **2.10.9 SA8000 Assurance Standard**

SA8000 is the first truly global certification system for supply chain labour standards (Azapegic, 2003; Sz`ekely and Kirsch, 2005). It is based on International Labour Organisation (ILO) standards and UN norms and is a good example of a stand-alone certification standard solution that is giving value to auditable manufacturing and supplying chain management (Sz`ekely and Kirsch, 2005).

#### **2.10.10 ISO 14000 Assurance Standard**

The ISO 14000 Assurance Standard is the most widely and frequently quoted standard in the area of corporate responsibility, and is also widely recognised for environmental management (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d). According to Sz`ekely and Kirsch (2005), Feng, Joung and Li



(n.d) it was developed in 1996 by the ISO which is a network of 148 countries (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

#### **2.10.11 Sustainability indicators and the measurement of sustainability performance.**

For many years, companies have tried to develop and measure elements of sustainability in supply chain management (Azapegic, 2003; Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d; Haywood, *et al*, 2010). These include the various resource users that cause economic costs and certain emissions and wastes (as directed by regulation). As Sz`ekely and Kirsch (2005) noted, the challenge in coming up with these metrics or indices lies in organising the information in a format that best offers support in decision making in terms of sustainability. When the concept of triple-bottom-line was institutionalised in 1998 by the chairman of SustainAbility, John Elkington, and the argument he made was that 21<sup>st</sup> century companies need to focus more sharply on enhancing environmental quality and social equity as they strive for profits (GRI, 2003; Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d). His emphasis was that there must be equality in seeing and assessing these three pillars (Elkington, 1998).

#### **2.10.12 Global Reporting Initiative (GRI) sustainability ratio indicators**

According to Sz`ekely and Kirsch (2005), GRI, Feng, Joung and Li (n.d), the GRI distinguishes between three types of ratio indicators. These are:

**(a) Productivity/Efficiency ratios** being:

- (1) labour productivity (turnover per employee),
- (2) process eco-efficiency (production unit per unit of waste, net sales per green house gas emission of CO<sub>2</sub>) ,
- (3) functional eco-efficiency (e.g. fuel efficiency of a car) and,
- (4) resource efficiency (sales per unit of energy use, GDP per material used)

**(b) Intensity ratios:** which basically express the impact per unit of the company's activity on value (e.g. emission per unit, waste intensity and resource intensity).

**(c) Percentage indicators:** - of the same issue with the same denominator and numerator (e.g. input/output rations, re-cycling percentage, fractions, quotas and financial performance) (GRI, 2003; Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).



### **2.10.13 Eco-efficiency as sustainability performance indicators**

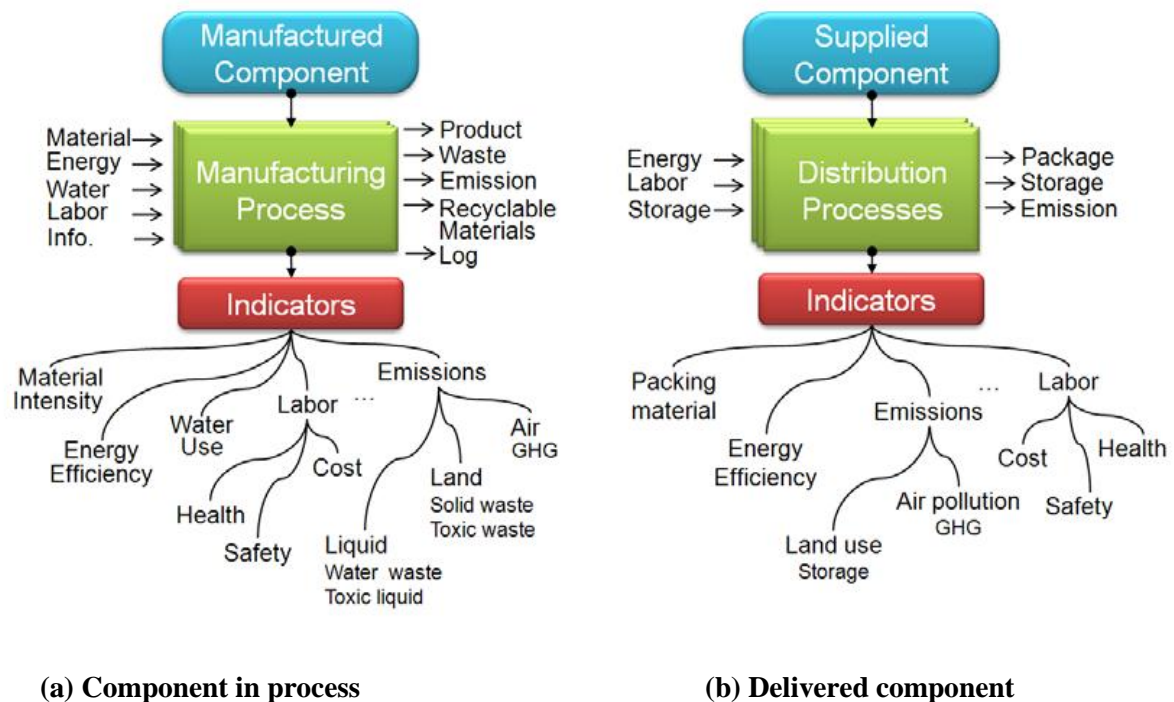
As defined by the WBCSD, eco-efficiency is reached by delivering competitively priced goods and services that satisfy human needs and deliver a quality of life, while progressively reducing the ecological impact and resource intensity (WBCSD, 1998). Investors call upon companies to focus on strategies that reduce the impact or increase shareholder value without damaging the provision of ecosystem services (Székely and Kirsch, 2005). The main challenge with these indicators is that there are no universally agreed rules on how to apply eco-efficiency rules and principles Székely and Kirsch, 2005; Feng, Joung and Li, n.d).

### **2.10.14 Other available sustainability indicators: -**

Feng, Joung and Li, (n.d) highlighted and summarised some of the key sustainability measurement indicators as follows:

- (a) OECD Core Set of Environmental Indicators,
- (b) The OECD Toolkit
- (c) Ford Productivity Sustainable Index
- (d) General Motors' Metrics for Sustainable Manufacturing
- (e) Environmental Pressure Indicators for the European Union
- (f) UN Commission on Sustainable Development Indicators, and
- (g) Wal-Mart Sustainability Product Index Questions (Feng, Joung and Li, (n.d).

Below is a summary from Feng, Joung and Li, (n.d) of a diagrammatic/process representation of some of the indicators used in sustainability measurement:



**Fig 2.1** Some indicators used in sustainability measurement.  
(Source: Feng, Joung and Li, n.d).

#### 2.10.15 Matrices for sustainability and sustainable development performance measurement

As argued by Székely and Kirsch (2005), metrics/indicators assist in assessing progress made by a company in promoting the ideals and principles of sustainability/sustainable development both externally and internally in any given time period. Matrices are normally expressed in ratios with the numerator including impacts like consumption, pollution effects and land use with the denominator containing measures of desired output e.g. production outputs, economic and or social value additions (Székely and Kirsch, 2005). By rule of thumb where lower matrices indicate a better sustainability result, higher matrices indicate a worse (Székely and Kirsch, 2005; Feng, Joung and Li, (n.d). Matrices can be made to be scalable and thereby are useful in converting scientific information to policy shaping tools (Székely and Kirsch, 2005). At the same time they help translate public expectations into measurable components such as targets and benchmarks

Matrices should show be simple, understandable, reproducible, comparable, scalable, complementary, stackable and useful protective company information (Székely and Kirsch, 2005).

#### 2.10.16 Economic matrices for sustainability performance

Economic sustainability matrices are primarily made up of human and financial capital considerations. They are not easily found in the corporate annual reports where mainly financial information is contained in volumes. Hence this information needs a quantitative measurement. Economic matrices usually include:

- (a) **Financial performance indicators:** net profit, gross margins etc.
- (b) **Tangible and intangible investments:** - Capital, Research and Development (R and D), knowledge, human capital, brands, reputation, networks and partnerships etc.
- (c) **Impact on investors:** - return on capital employed (ROCE), Sustainable Development investments, shareholder accountability, SRI risks and opportunities etc.
- (d) **Impact on employees:** - remuneration, benefits, training opportunities, etc
- (e) **Impact on government:** - taxes, tax breaks, subsidies and royalties etc.
- (f) **Impact on community:** - job creation, infrastructure development, technology transfer, social capital formation (Székely and Kirsch, 2005).

#### 2.10.17 Environmental Metrics for Sustainability Performance

While doing business it is quite important to identify those aspects of operation of the business that have real and potential environmental impact so that one can see where best to operate to increase business resilience in the socio-ecological system (Székely and Kirsch, 2005; Haywood *et al*, 2010). When running a business with multiple sites, it is important to have consistent metrics, yet at the same time there must be tension (?) practised as facilities need flexibility because indicators vary according to location, regulation and surroundings (Azapegic, 2003; Székely and Kirsch, 2005; Feng, Joung and Li, n.d). Resource use and waste generation are some of the key metrics in environmental sustainability performance (Székely and Kirsch, 2005). Most organisations focus on lagging indicators (outcomes reported after an impact has occurred) rather than leading indicators (activities that occur before impact like audits) (Székely and Kirsch, 2005).

#### 2.10.18 Social matrices for sustainability performance

These are by far the most difficult to measure and to compute in any business set up due to the wider and remote impact of business activities in communities, on the social space (Székely and Kirsch, 2005). Efforts are still evolving but some of the social issues businesses focus on is:

- (a) **Human rights;** -which has been made quite an important issue due to globalisation.
- (b) **Labour/employment issues** – standard issues are in the specific domain of health and safety, wages/salaries, benefits, conditions of work/employment, accountability, image/reputation, harassment etc.
- (c) **Supplier relations** – contractual agreements, diversity of suppliers, and methodology in screening.

(d) **Community initiatives** - involvement of business in local communities, contribution to the local economy, local wealth and skills development.

(e) **Corporate philanthropy**: - donations, pre-tax profits and grant programmes (Székely and Kirsch, 2005).

#### **2.10.19 Integrated matrices for sustainability performance**

When two classes of matrices/indicators are used to describe the state and performance of the system, it is known as integrated matrices (Székely and Kirsch, 2005). Researchers have attempted to measure improvement in terms of three groups of metrics (social, economic and environment) but it has been quite difficult since they are unidirectional and therefore can only measure one parameter (Azapegic, 2003; Székely and Kirsch, 2005).

#### **2.10.20 Non-quantifiable sustainability initiatives**

Many sustainable indicators are qualitative in nature and they do not lend themselves that well to financial valuation (Székely and Kirsch, 2005). The real outcome of the employed sustainability strategies and the corresponding result of the capital outlays, are uncertain so benefits are difficult to forecast and quantify (Azapegic, 2003; Székely and Kirsch, 2005; Feng, Joung and Li, n.d). For example systems, operations, procedures, and some management practices are not quantifiable and are mostly social issues with great intangible value, that need to be contextualised (Székely and Kirsch (2005). Therefore such indicators need to be highly contextualised to be of any useful value in the sustainability area (Székely and Kirsch (2005).

### **2.11 Corporate Social Responsibility/Corporate Citizenship in developing countries**

The development of the concept of Corporate Social Responsibility (CSR) has fast expanded since the days when it was considered that the social responsibility of business is to increase profits (Friedman, 1970). For example, Andrews (1988) argued that “corporate strategy is the pattern of decisions in a company that determine and reveal its objectives, purpose, or goals, produces the principal policies and plans for achieving those goals, and defines the range of business the company is to pursue, the kind of economic and human organisation it is or intends to be, and the nature of the economic and non-economic contribution it intends to make for its shareholders, employees, customers and communities”. The criticism by some authors that the mainstream Corporate Social Responsibility (CSR) agenda was largely driven by the concerns and priorities of Western countries and therefore tends to be insensitive to local priorities, as well as inadvertently harming prospects for sustainable livelihood in developing countries, set the tone for the emergence of a South-centred CSR agenda (Visser et al ; 2007). The efforts to broaden the scope and content of mainstream CSR discourse and

practice has meant three principal themes have come to dominate the emerging South-centred critical CSR agenda.

As defined by Visser et al in 2007, Corporate Social Responsibility (CSR), represents all the formal and informal ways in which business makes a contribution to improving governance. More recently, Drucker (1993) stated that corporate citizenship means active commitment, it means responsibility, and it means making a difference in one's community, one's society, and one's country. CSR is suggested here to involve: the internalisation by the company of the social and environmental effects of its operations through pro-active pollution prevention and social impact assessment, so that harm is anticipated and avoided, and benefits are optimised. It is suggested that CSR contributes to social justice in the work place as well as human rights and development within the host countries of the operation (Warhurst et al., 2000). It is about addressing the social, ethical, labour and environmental conditions of the developing countries in which the company operates, while remaining sensitive to the prevailing religious, historical and cultural context (Visser et al; 2007 in Visser 2010 : 474). Over the past demand more than 42% of the literature on CSR on the African continent is dominated by business ethics, mainly because of the apartheid history and corruption (Visser, 2010: 479). The challenge of CSR in developing countries is framed by the vision which was distilled in 2000 in the Millennium Development Goals (MDG): "a world with less poverty, hunger and disease, greater survival prospects for mothers and their infants, better educated children, equal opportunities for women and a healthier environment"(UN, 2006: 3 in Visser, 2010: 473). As argued by Visser (2010), the question is rather "what is the role of business in tackling critical issues of human development and environmental sustainability in developing countries?"

Developing countries represent a unique CSR motivation case should one take more interest in studying it (Visser, 2010: 474). These are as follows:

- (1) Developing countries are rapidly expanding economies and hence are most attractive regions for business growth markets (IMF in 2006 in Visser, 2010),
- (2) Social and environmental crises are most felt in developing countries (UNDP, 2006 in Visser, 2010: 474)
- (3) Due to globalisation, economic growth, investment and business activity in developing countries, most dramatic social and environmental impacts are likely to be felt there, and
- (4) Developing countries represent a different set of agenda challenges that are mostly quite different from those felt in developed countries (Visser, 2010: 474).

## **2.12 Classification of literature on corporate social responsibility in developing countries**

Visser (2010) used three broad classifications sketching around the whole and in favour of CSR literature being on thematic coverage, knowledge type, and level or focus of analysis. Table 2.3 gives more detail.

**Table 2.3 Classification of literature on CSR in developing countries**

<b>Classification</b>	<b>Focus</b>
<b>1. Content</b>	Clustered under the four themes of social, environmental, ethics and stakeholders. Most work focuses on social theme reflecting the focus of business in developing countries in terms of CSR (Visser, 2010: 475). Social issues are also given more political, economic and media emphasis (a). There is also a strong philanthropy in this category.
<b>2. Knowledge Type</b>	Where Locket <i>et al</i> (2006 in Visser, 2010: 476) divided this type of literature into theoretical and empirical research, with 89% of the literature being non-normative.
<b>3. Analysis Level</b>	<p>Where research has been either generalised with a compendium in the Journal of Corporate Citizenship or becoming, more common (b) or focussed (with only a fifth of countries have literature, with China, India and Malaysia, Pakistan, South Africa and Thailand being where the most analysis was done</p> <p>(a) Global Level</p> <p>“With little context for developing countries, except for notably one researcher who researched on 127 leading companies in 21 emerging markets across Asia, Africa, Latin America and Central and Eastern Europe which compares to 1,700 leading companies from high –income OECD countries”(d)</p> <p>(b) Regional Level</p> <p>(1) Asia</p> <p>A region with most literature covered on CSR in developing countries with significant focus on China, India, Indonesia, Pakistan and Thailand with CRS performance varying greatly between and among countries (e).</p> <p>(2) Africa.</p> <p>Heavily dominated by South Africa (f) with pockets of research in Cote D’Ivoire (g), Kenya(h), Nigeria(i), Tanzania(j), Mali and Zambia (k). The Journal of Corporate Citizenship in Africa concludes that academic institutions and researchers focusing on CSR in Africa remain few and under-developed (Visser et al, 2005 in Visser 2010: 479). Only 12 of the 53 Africa countries have had any research published by core journals with 56% focusing on South Africa and 16% on Nigeria (Visser, 2010: 479).</p> <p>(3) Latin America</p> <p>Is the least covered of all the developing countries (l) with a focus on Argentina, Brazil and Mexico. Heavily dominated by socio-economic and political conditions, which have aggravated many environmental and social problems e.g., deforestation, unemployment, inequality and crime (Visser, 2010: 479). In 2006 Shemidheiny notes that CSR is perceived by many in Latin America as hope for positive change in the face of poverty, inequality, environmental degradation, corruption, and economic stagnation (m).</p>
<p>(a) Schmidheiny (2006) in Visser, 2010: 476</p> <p>(b) Frynas (2006; Pedersen and Huniche, 2006 in Visser, 2010: 476)</p> <p>(c) Visser (2010 : 476, 479)</p> <p>(d) Barkin (2006) in Visser 2010: 477.</p> <p>(e) Birch and Moon (n.d in Visser 2010: 478.</p> <p>(f) Visser 2005a in Visser 2010: 478</p> <p>(g) Schrage and Ewing, 2005 in Visser 2010 478</p> <p>(h) Dolan and Opondo, 2005 in Visser, 2010: 478</p> <p>(i) Amaeshi et al 2006 in Visser 2010: 478</p> <p>(j) Egels, 2005 in Visser 2010: 478</p> <p>(k) Hamann et al, 2005 in Visser, 2010: 478</p> <p>(l) Haslam 2007 in Visser, 2010: 479</p> <p>(m) Shemidheiny (2006) in Visser 2010: 479.</p>	

## 2.13 Why companies start corporate social responsibility programmes and initiatives

### (a) Cultural tradition

In general many people believe that CSR originated in Western countries (Visser 2010: 481). However, there is strong evidence, which suggest that CSR in developing countries draws heavily from their deeply rooted indigenous cultural traditions of philanthropy, business ethics and being embedded into the community (Visser, 2010 481). Indeed some of them go back to ancient times as Macintosh and Visser remember the ethical condemnation of usurious business practices in developing countries that practise Hinduism, Buddhism, Islam and Christianity dating back hundreds and thousands of years (Macintosh and Visser, 1989 in Visser 2010: 481). According to Frynas, Indian statesman and philosopher Kautilya advocated business practices based on moral principles in the 4<sup>th</sup> century Before Christ (Frynas, 2006 in Visser, 2010: 481). In Nigeria CSR is framed by socio-cultural influences like communism approach to life, ethnic beliefs, and CSR charitable tradition and other by values-based traditional philosophy of Africa humanism like *Ubuntu* (Visser; 2010).

### (b) Political Reforms

CSR programmes and projects in developing countries cannot be separated from the socio-political reform process, which drives business to integrate social and ethical matters of concern (Visser, 2010:482). De Oliveria (2006) successfully argued that political and related social and economic changes in Latin America since the 1980s, including democratisation, liberalisation and privatisation have made businesses shift their focus on responsibility towards social and environmental issues as well. Rossouw et al (2010) argued that in South Africa, the political changes towards democracy and redressing the injustices of the past have been a significant driver of CSR. The, according to the same author, have led to the practice of good corporate governance, collective business action towards social upliftment, Broad Based Black Economic Empowerment (BBBEE), and business ethics, (Rossouw, el at, 2010; Malan, 2005; Fig, 2005 in Visser 2010: 482).

### (c) Socio-economic Priorities

There is a powerful argument that CSR in developing countries is mostly directly shaped by the socio-economic environment in which firms operate, and the developmental priorities it creates (Visser, 2010: 482). Using Nigeria as an example, CSR is about specifically addressing the socio-economic challenges of the country and these include poverty alleviation, health-care provision, infrastructure development, and education (Amaeshi et al, 2006 in Visser 2010 : 482). Both Visser and Amaeshi et al argue that this is in stark contrast to the developed world CSR models, that are mainly driven by consumer protection, fair trade, green marketing, climate change concerns and social responsibility (Amaeshi et al, 2006 in Visser 2010: 482). One of the reasons for leaving out poverty and tax avoidance by Latin American CSR models is their origin in developed countries (Schmidhely, 2006). He further argues that, on the contrary, locally developed CSRs tend to respond to actual and real challenges of deforestation, unemployment, income inequality and crime in the region (Deoliveria,



2006). Business response to HIV and Aids is a typically good example in Africa, especially Southern Africa (Bennan and Baines, 2006 in Visser, 2010: 483)

#### **(d) Governance Gaps**

As Levy and Kaplan (n.d) suggested, CSR is a form of governance. In developing countries it is seen as a way of plugging the “governed gaps” left by weak, corrupt, and under-resourced governments that acutely fail to provide social services like housing, roads, electricity, health care etc (Visser, 2010 : 483; Matten and Moon, f.c). Proponents of CSR and bottom of-the-pyramid models, argue that companies can fill this gap (Blowfield and Frynas, 2005 in Visser, 2010: 483). Ghanaians stressed that CSR is about building local capacity and filling-in where government falters (WBCSD, 2000 in Visser, 2010: 483).

#### **(e) Crisis Response**

Visser (2010: 484) argued that various CSR initiatives, programmes, and projects are a response to social, economic, environmental and political crises in developing countries. Nell (2005) argued that the 2001/2 Argentina crises resulted in a new turning point in which CSR was practised (Nell, 2005 in Visser, 2010:484). Hoffman and Dunfee see HIV and Aids and climate change as possible galvanisers of CSR responses in developing countries (Hoffman, 2005; Dunfee, 2006 in Visser, 2010: 484). Shrivastava also said that industrial accidents can create pressure for CSR responses by companies, as was seen with the Union Carbide response to the Bhopal disaster in India (Visser 2010: 484).

#### **(f) Market Access**

The flipside of seeing socio- economic priorities as a driver is to see the unfulfilled human needs as an untapped market (Visser, 2010: 485). It is about the business case of bottom-of- the-pyramid where businesses has been turning the world’s four billion poor people into an active consumers market in a classical case where business stray into development (Prahalad and Hammond, 2002, London and Hart, 2004, Rangan et al, 2007; Hartcort, 2004 in Visser 2010: 485). CSR can also be perceived as an enabler by business to access markets that are previously difficult to enter, and an opportunity to gain a competitive advantage and international aggressive sales of products via these methods. One example, which comes to mind, is the AED/Mark partnership with Exxon Mobile where they gained access to pregnant mothers to sell insect–treated mosquito nets (Diara, et al, 2004 in Visser, 2010: 485).

#### **(g) Investment Incentives**

According to Gabriel, the belief that national investments are inextricably linked with the social welfare of developing countries is not a new phenomenon (Gabriel, 1972 in Visser, 2010: 486). Somehow these efforts are screened, based on CSR performance; hence Socially Responsible Investment (SRI) is becoming another driver for CSR in developing countries (Visser, 2010: 486). Approximately 8 % of the emerging market companies on the Dow Jones World Index are included in the Dow Jones Sustainability Index, compared to only 13% of high-income companies (Baskin, 2006 in Visser, 2010: 486). According to the African Institute of Corporate Citizenship (AICC) in South

Africa SRI is well documented (AICC, 2002 in Visser, 2010: 486). Also closely linked to the SRI is the business case of sustainability (Visser, 2010: 486).

#### **(h) Stakeholder activism**

According to Visser (2010), in the absence of strong government controls over the social, ethical and environmental performance of companies in developing countries, activism by stakeholders has become another key driver of CSR. Four key stakeholders have emerged as being the most powerful activists and these are: development agencies (Jenkins, 2005 in Visser, 2010 : 487), trade unions (Kaufman et al, 2004 in Visser 2010 : 487), International Non Governmental Organisations (NGOs) (Christian Aid, 2005 : in Visser, 2010 : 487) and business associations like the WBCD, 2000 (Visser, 2010 : 487). These groups provide critical platforms for small and resource poor NGOs to provide strong advocacy for CSR (Visser, 2010: 487). The media are also becoming another strong stakeholder (Vivarta and Canela (2006); in Visser, 2010: 487). Civil regulation, litigation against companies and international legal instruments are the key forms in which stakeholder activism takes place in developing countries (Newell, 2001 in Visser, 2010, 487).

#### **(i) Other**

International standardisation and supply chains are some of the drivers of CSR in developing countries (Visser, 2010: 486 and 488)

### **2.14 Overall framework that will be used to interrogated the BATZ case.**

As Holliday et al argued that business is as much part of society as fish are part of water, sustaining a company is as good as sustaining a planet and both short and long term aspects need to be considered, as well as varying degrees in context. In normative terms, organizations should understand their social and environmental impact as well as their real financial performance by looking at their scope of operations and purpose, so that they should be able to articulate their sustainability agenda vision, mission and value statements (McIntosh, 2003). The socio-ecological framework prioritises neither humans, nor nature and each is seen as a vital link in this web. As a framework for broader understanding and studying of BATZ, I will use the socio-ecological systems to understanding how BAT has been operating and implementing the sustainability agenda in order to improve the chance of success in tough times via risk aversion and competitiveness. Research has also shown that management practice will enhance or will damage the resilience of socio-ecological systems in which corporate are embedded. In conducting this research I will be focusing on looking at BAT Zimbabwe in relation to:

- (a) Ecosystems services:** - the provision for sources (inputs) for production and sinks for BATZ waste
- (b) Interdependence:** the crucial link between nature, people (and critical collaboration) and production at BATZ.

- (c) **People:** The unique partner in this triad with ability to influence, think and make the system better, and recognise and manage risk better at BATZ,
- (d) **Synthesis:** data and information, feedback, feedback loops and support systems that will recognise engagement trends, system properties and provide invaluable integrated perceptions for continual query and decision making, and anticipatory analysis (Hodge, 1997).

I will use the elements of a socio-ecological framework to investigate the degree to which BATZ's philosophy and corporate value system are embedded in establishing and reporting on sustainability programmes, initiatives and projects.

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Introduction

There has been much practical and theoretical (including desktop) research conducted into the corporate sustainability and sustainable development initiatives, programmes and projects in the world. Yet there is limited empirical evidence in developing countries that supports the conclusiveness of the real reason why corporates establish, conduct, publicise, and report on sustainability/sustainable development. In some cases by publishing a sustainability report companies even attract scrutiny to be directed to issues that they report on. The preliminary investigation (from Chapter One) suggests that the explosion of sustainability initiatives and practices has emerged primarily from the absence of active government intervention and emerging global competitiveness. The same investigation shows that large MNCs are only worried about securing licenses for operations to make profits and are never really worried about sustainable development *per se* (sustainable development in this regard entails consideration of the well-being of local people (McIntosh, 2003; Haywood et, al, 2010, Eweje, 2011a). Further to this end large MNCs are known to seek to reward its owners (McIntosh, 2003).

The study is to provide the reasons why BATZ has established, implemented and report on sustainability initiatives, practices, programmes and projects. I conducted the applied research through a number of tools like focus group discussion, key informant interviews, face-to-face interviews, use of a structured question, BATZ and sustainability reports and journals

The population and subject of interest were the operations of BATZ and this includes the broader CSR/I beneficiaries. The interviewees were mainly Board members, Directors, Management, staff members CSR programme direct beneficiaries. One-on-one and key informant interviews were held with the Managing Director of BAT Mr Lovemore T. Manatswa, Head of Engineering and Manufacturing, Peter Musarugwa and the Environmental, Health and Safety (EHS) Officer, Walter Gonye who gave information and opinions on sustainability aspects like energy usage, water, carbon emissions, fuel, waste management and sustainable health. Lovemore, Peter and Walter were the key informants from the top management and cigarette manufacturing side. Two supervisors from the factory and three factory shop floor workers were also interviewed using focus group discussion. The focus group discussions and interviews were held as part of the process to analyse and validate information contained in the BAT online information warehouse called EHS Sub-Summary Portal. This online facility contains all information for BAT group and has various access levels authorised for certain levels of managerial and some senior level employees of the company. The portal cannot be accessed by outsiders.

Corporate Social Responsibility interviews and focus group discussions were held with the Head of Corporate, Legal and Regulatory Affairs, Shungu Chirunda and the Executive Manager for Corporate, Legal and Regulatory Affairs, Peter Mtombeni. Leigh Brakeway, Manager for Corporate, Legal and Regulatory Affairs formed part of the CORA people that I interviewed. I also interviewed the Information Communication Technology (ICT) Manager, Godfrey Manyawa, Financial Planning Manager, Valentine Makandi and three general employees. The names of all interviewed staff are attached in Appendix A. The research looked at various parameters that have been the focus of BAT Zimbabwe sustainability agenda for many years. The research also looked at summary of the past performance of BAT global operations, focusing on various sustainability aspects. It also looked at direct and indirect energy, water use, waste management, recycling, carbon emissions, and lost workday incidence rate.

### **3.2 Research Objectives**

As a globally competitive MNC, BATZ has established reports and even publicise sustainability programmes and projects via sustainability reporting in the absence of strong government intervention and organized stakeholder pressure in Zimbabwe. There is limited empirical evidence that supports the conclusiveness of the real reason why corporates establish, conduct, publicise, and report on sustainability initiatives. This research is undertaken to ascertain some of these reasons, philosophies, culture, drivers and key motives behind. Specifically the four objectives of this applied research are:

- (1) To ascertain the link between BAT top management philosophy, corporate strategy and the company's corporate sustainability programmes, initiatives and other efforts, and the various stakeholders; and, if so, how these are communicated to them.
- (2) To establish the level of integrating sustainable development practice and initiatives into the BAT Zimbabwe business model in order to have long-term benefits for both the company and its various stakeholders. These are an integral part of the socio-ecological system, and will help the business understand the resilience of the system and where in the system they should operate.
- (3) To establish the culture of sustainability in terms of the extent to which they are embedded in the BAT Zimbabwe operations; and
- (4) To ascertain the economic, social and environmental benefits of BAT's corporate sustainability programmes and initiatives in the locality in which it operates.

### **3.3 Research design and methodology**

The study focussed on a single tobacco MNC, BAT Zimbabwe. Once the research findings are published, the corporate and its various key stakeholders will benefit from being advised and offered revised sustainability business models and paradigms for sustainable business operations there is possibility that this research will fine tune BAT global sustainability strategies that are currently under

revision world-wide. This also applies to BAT corporate social, environmental and economic sustainability parameters, policies, reporting systems and broader aspects like staff wellness, health and safety issues.

### **3.3.2 Methodology and list of selected interviewees.**

#### **3.3.2.1 Methodology**

Choosing of research participants occurred in these sections of interest and a representative sample, using random sampling, which gives all elements an equal and unbiased chance of being selected from the sampling frame. From this, it would seem that there would be a pattern of experiences, perceptions and shared empirical understanding about the BATZ sustainability programmes.

#### **3.3.2.1 A list of those who participated in the interview and focus group discussions**

British America Tobacco Zimbabwe Managing Director .....Mr Lovemore T. Manatswa  
 Head of Corporate, Legal and Regulatory Affairs,.....Shungu Chirunda  
 Executive Corporate, Legal and Regulatory Affairs,..... Petra Mtombeni  
 Manager for Corporate, Legal and Regulatory Affairs then,.....Leigh Blackway  
 Head of Manufacturing and Engineering .....Peter Moses Musarugwa  
 Health, Environmental and Safety Officer .....Walter Gonye  
 Leaf Sustainability Manager,.....Eddie Mandivhenyi  
 Leaf Sustainability Officer.....Louis Mkwenha  
 Financial Planning Manager.....Valentine Makandi  
 ICT Manager.....Godfey Manyawa  
 General Worker Factory).....Clifford Philima  
 Factory Worker.....Jealous Musonda  
 Factory Cleaner.....Farai Toto  
 Three General Administration workers.....Names withheld

#### **OUTSIDE BAT**

Environmental Protection Officer (EMA Marondera).....William Chibwe

Please note that the same list is repeated in the appendices

### **3.3.3 Advantages of using case studies**

The research looked at one company in Zimbabwe being BAT as it was not possible to look at more than one company due to the nature of the study and the allocated time. The following are advantages of using a case study;

- They are useful and appropriate in testing theoretical models using real life examples;
- They have the ability to enable the researcher to have a deeper analysis of issues than would be possible with a sweeping survey. Here I used focus group discussions to digger deeper and asked follow up questions to get clarity on issues.
- There is flexibility to take a new direction in a case. Like in the above when I interview the Managing Director issues got deeper and I was able to ask as much questions as I could and it cover much broader issues that other mangers could not do due to time and knowledge.
- They make for more and deeper, rich and real discussions than fixed surveys. In my case every interview was unique and it gave a different perspective of sustainability at BATZ.

### **3.3.4 Disadvantages of using case studies**

- It may not be possible to generalise the results of a case, as cases are very specific in nature.
- Results of a case may not be extrapolated to the general question because research case is specific.
- They do not take time horizon into consideration, as they are only a snapshot of events of that period. This was true in some of the ways in which information was recorded and had short time horizons.

## **3.4 Research instrument(s)**

The research instrument or study was a real life business and corporate case study. This case study was then be triangulated with focus group discussions (where key informants were also heavily used), one on one interviews, structured questionnaires and observations. The idea is to investigate both BAT `s supply chain and other initiatives like the CSR/CSI projects of BATZ with reference to the central question of corporate sustainability and sustainable development. There are various ways of measuring sustainability, such as matrices and indicators whose framework has been identified in the literature review. This will also be applied to find out the movement of BATZ on its sustainability scale.

### **3.5 Research framework and its methodological underpinnings**

The research framework is defined as the delineation of the population of a research study. For this study of BATZ, it consists of key stakeholders in the supply chain and in the various CSR/CSI projects that are of interest to me. The CSI projects are in education, community development, agriculture and health. Simple random sampling was the methodology that was applied to select the sample from the population in the sampling frame. Both men and women were selected. Measures were put in place not to pick predominantly one sex in the research population to prevent response bias, based on other pre-determining factors. Obviously participants were selected because they are in the research area of study in the BAT value chain and in its CSR/CSI projects and programmes. Probably the research results will be generalised to the Southern Africa Markets where BAT operates in eleven different countries.

### **3.5 Research Procedures**

The research gathering was done using case study instruments (face-to-face and, in some limited cases, cell-phone interviews, questionnaires, focus group discussions and observation experiences). Data was gathered in the month of May over a period of two weeks, mostly during working days for BATZ employees, management, directors; board members and direct project beneficiaries. Participants were asked random questions and the responses were recorded by the interviewer and in some limited cases specific research questions were applied to a particular group of the section of study. Each interview took approximately 45 minutes to 60 minutes. Focus group discussions took up to two hours per session.

Consent forms were completed prior to questioning and respondents were assured of total confidentiality. Confidentiality was achieved and maintained through the use of anonymous names. Once completed, questionnaires were locked away outside the country, and questionnaires will be destroyed by shredding three months after the final research has been submitted and marked. Electronic data will continue to be secured through the use of a unique password. The final report was tabled to the BAT top management.

The study was conducted and participants took part purely on a voluntary basis and were advised that if they wanted to withdraw at any given point, they were free to do so, and those that did not feel comfortable in answering certain questions were asked to leave them out, but they remained part of the process.

### **3.6 Data Analysis**

Data cleaning, preparation, and coding were done. Response analysis and triangulation from open-ended responses will be done. Graphs, tables, charts and narrations will be done to present and analyse data.



## CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSION

### 4.1 Introduction

This chapter presents research findings based on the clearly stated research objectives and an attempt to answer research questions posed at the start of this research. The main research findings are presented from section 4.3 to 4.14.4 in order to make conclusions and recommendations in chapter five.

In the face of a tough emerging global operating environment and growing sensitivity toward social issues, business leaders, particularly from the developed world, are vigorously promoting sustainable development/sustainability and making it a reality through initiatives, practices and projects (Epstein and Roy 2003; Eweje, 2011a). Corporates, especially those operating globally (i.e. those with global presence), have ``undertaken`` to support the principles of sustainable development and sustainability, especially that they undertake not to harm either the environment or society (Hart, 1996 in Eweje, 2011a). Simply put, if companies see value in sustainability work, they cannot help but want to report on it (Eweje, 2011a).

### 4.2 BAT Group Environmental, Health and Safety Parameters

According to Feng, Joung and Li, (n.d) the two main reasons why sustainability is measured are for sustainability accounting and impact analysis. Sz`ekely and Kirsch (2005) articulated that many large and medium sized companies have initiated a variety of sustainable development practices and have also integrated sustainability strategies in their business. From interviewing the Head of Manufacturing and Engineering and the EHS Officer, hereafter referred to as key informants for the BAT Zimbabwe cigarette factory, the research found that BAT Global has a comprehensive Environmental, Health and Safety (EHS) Management system that was put in place in 2002. This is the system that BAT Zimbabwe uses for reporting the Group`s EHS section of the sustainability report. The research also found that at a global level key environmental, health and safety performance highlights are recorded in the second quarter of the global BAT Dashboard Highlighter. The Dashboard Highlighter is a simple table that shows movement of key parameters under measurement. The BAT group at the global and top level sets the parameters but country operations are given those targets to achieve at the beginning of every quarter. The research was not about measuring the production process but looking at sustainability programmes within BATZ hence it was not done.

From 2009 these set environmental parameters were on measured to be on target with the set targets as far as water use, waste to landfill, and recycling are concerned. In 2011 the organisation performed well against set targets on key selected environmental parameters for energy, carbon dioxide

equivalent (CO<sub>2</sub>e) emissions, water and recycling. As recorded in the report, energy was not on target (increasing by 1,9% in absolute terms) due to seasonality and the impact of energy usage in the first quarter of each year. This tends to be high. In some regional markets the impact of actual freight energy versus estimates was high but overall the annual impacts were significant. For BAT Zimbabwe the detailed EHS Key Performance Indicator section will be given below. In summary, for 2011 the BAT Group's operation improved on all measured metrics, compared to 2010. Energy use decreased by 7.5% and carbon emissions by 3,5%. Water use reduced by 6.35 per million cigarettes equivalent and there was a 5.6% reduction of waste to landfill per million cigarettes equivalent, and lastly, the recycling rate increased by 0,2%. As argued by Székely and Kirsch (2005), metrics/indicators assist in assessing progress made by a company in promoting the ideals and principles of sustainability/sustainable development both externally and internally in a given time period.

The BAT Global Group Environmental Health and Safety Key Performance Indicators, from 2009 to 2011, are summarised in Table 4.1.

**Table 4.1 BAT Global Group EHS KPIs for Second Quarter of 2010**

<b>Environmental Performance</b>	<b>2009 (Quarter 2)</b>	<b>2010(Quarter 2010)</b>	<b>2010(Year end target)</b>	<b>2011</b>	<b>Progress to 2012 target</b>
<b>Energy</b>  (GJ/Million cigarettes equiv)	11.37	<b>11.08</b>	11.02		Not on target
<b>Water Use</b>  (m3/million cigarette equiv)	4.45	<b>4.11</b>	4.33		On target
<b>Waste to Landfill</b>  (tonnes/million cigarette equiv)	0.02	<b>0.016</b>	0.02		On target
<b>Recycling</b>  (% of waste generated)	83.31 %	<b>85.36%</b>	84.5%		On target
<b>Lost Work Day Incidence Rate (LWCIR) (target 0.2 or less)</b>	0.36	<b>0.34</b>	< 0.2		Not on Target

**Source: - Q2 EH and S Key Performance Metrics Highlights Report of 2010.**

### 4.3 BAT Zimbabwe material usage environmental sustainability performance Indicator.

According to the BAT EHS Sub-Summary Report of 2011 which was made available to me by the EHS Officer, the table below shows direct and indirect material usage in the production of tobacco cigarettes. The table showing environmental Performance Indicators – Material Usage (other than water)

**Table 4.2 Material usage at BAT Zimbabwe**

		Unit of Measurement	2010 Actual	2011 Actual
<b>Environmental Performance Indicators</b>				
<b>Total Materials used (other than water)</b>	Total Materials	Tonnes	3,757	4,999
	Total materials/million cig equiv, produced	Tonnes/million	1.26	1.10
	Leaf	Tonnes	2,725	3,047
	Direct materials	Tonnes	1,033	1,51
	Indirect materials	Tonnes	0	1
	Materials used that are waste from external sources	Tonnes	0	0
	Percent of materials used that are waste from external sources	%	0.00%	0.00%

**Source: - Q2 EH and S Key Performance Metrics Highlights Report of 2010. NB some of the figures for 2012 were still being measured.**

As defined by the WBCSD, eco-efficiency is reached by delivering competitively priced goods and services that satisfy human needs and deliver a quality of life, while progressively reducing the ecological impact and resource intensity (WBCSD, 1998). Investors call upon companies to focus on strategies that reduce the impact or increase of shareholder value without damaging the provision of the ecosystem services (Székely and Kirsch, 2005).

BAT Zimbabwe used about 4,999 tonnes of material against the planned tonnage of 3,757. This was due to increased production as the economy improved in 2011. This translates into 1.1 tonnes in materials/million cigarette equivalent produced in 2011, a rise from 1.26 tonnes total materials/million cig equivalent, produced. Also the amount of leaf use was 3,047 tonnes up from 2,725 tonnes of the previous years as production improved for the same reason as given above, namely due to an improvement in the economy. Only one tonne of tobacco manufacturing chemicals like cigarettes heads was used in 2011 yet in previous years, there was non-use of indirect material. BAT Zimbabwe did not use any material that consisted of direct waste from other sources in 2008, 2009, 2010, and 2012. Hence it had zero percentage (0 %) of materials used that were waste from external sources. According to the key informants at the factory this shows that the degree of material recycling at the company is still very low due to the fact that it is quite impossible to recycle material in the cigarette manufacturing plant. So what BAT is doing is to re-use C48 cartoons for cut rag (export tobacco to Mozambique) these are used at least 4-5 times before disposal through re-cycling. In this regard the BATZ re-cycling figures these items is around 78% which fairly good by any standard

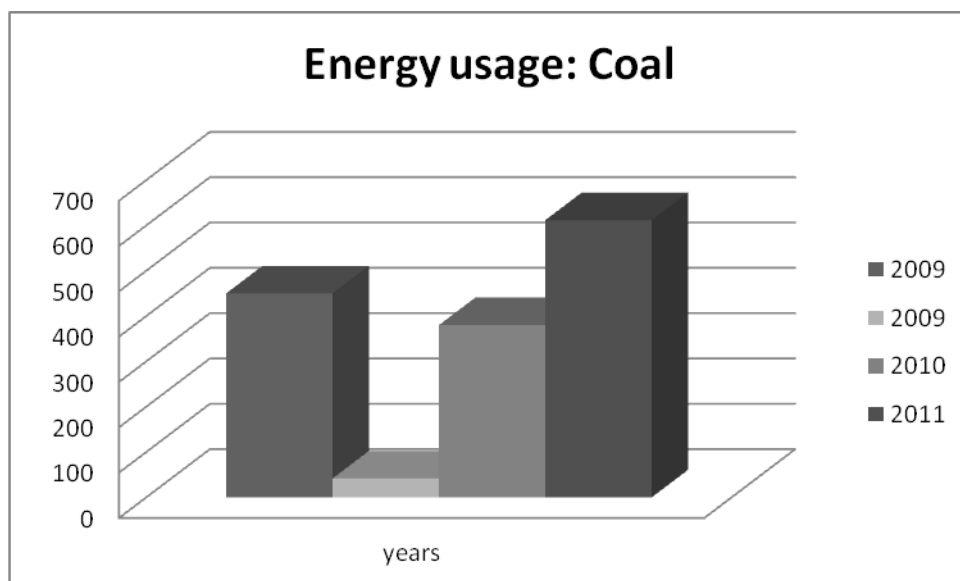
#### **4.4 Direct energy use at BAT Zimbabwe from non-renewable energy sources (segmented by source) as environmental performance indicators**

The research looked at direct energy use at BAT Zimbabwe from non-renewable energy sources (as segmented by source) as an environmental performance indicator. It looked into the EH and S Sub Summary report of 2010, supported by key informants from the factory, particularly the EHS Officer. The research found that at BAT group level, indicators for direct energy use from non-renewable energy sources performed well and actually met set energy usage targets for 2012. In 2011 BAT introduced global new energy use reduction plans for its largest manufacturing sites around the world, and has begun to review the scope of reporting on energy. Clayton and Radcliff (1996:1) and Goodland and Daly (1996:1008) state that economic systems determine the rate and outflow of energy and resources from the environment into patterns of human use and the rate and flow of wastes, energy and materials from human economic operations back to the environment. The section below looks specifically at BAT Zimbabwe's direct energy use from non-renewable energy sources and other environmental sustainability performance indicators based on the actual research findings.

#### **4.4.1 Coal usage at BAT Zimbabwe.**

The finite global ecosystem is the source of all material inputs, which drive the infinite economic subsystem, and is the sink for all wastes generated (Goodland & Daly, 1996:1011). By interviewing key informants from the factory, the research found that BAT Zimbabwe witnessed low cigarette production levels during the 2008/09 production and marketing year. This was due to the general economic down turn, which was experienced in the country. In 2010 a slight reduction, which was noted in coal usage, was largely due to improved production and plant mechanical efficiencies at BAT Zimbabwe. These efficiencies were meant to reduce the carbon footprint of the company. In 2011 there was an increase in coal usage mainly because of the usage of low-grade coal, which was given to the BAT Zimbabwe cigarette manufacturing company despite the fact that the company had energy use analysis and policy in place and there were no significant alternatives put in place. The reason for use of this kind of coal was because high-grade ore was prioritised and reserved for key national projects. The result was that in 2011 BAT Zimbabwe had a high carbon footprint from its cigarette manufacturing activities and more coal was used to produce cut rag.

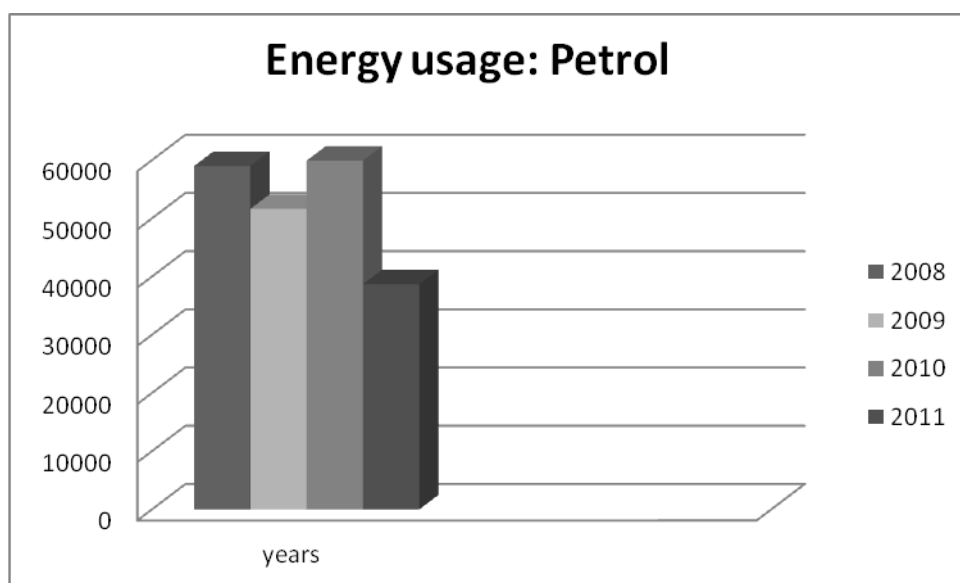
The persistent criticism and pressure to report on the negative consequence of business on the social and environmental impact resulted in corporates putting pressure on themselves to report on their preventive work done to combat negative “externalities” which resulted from production and international trading (Kolk, 2003 in Eweje, 2011a and Eweje, 2011b). This clearly demonstrates that OSH and environmental issues are now important factors, which investors consider when assessing performance of companies trading on the stock exchange. Thus through the implementation of OSH and environmental management systems, BAT managed to maintain sustainable competitive advantage on the international market. Below is a visual graph for BAT Zimbabwe coal usage at their cigarette plant from 2009 to 2011.



**Graph 4.1: - Coal usage at BAT Zimbabwe from 2008 to 2011**

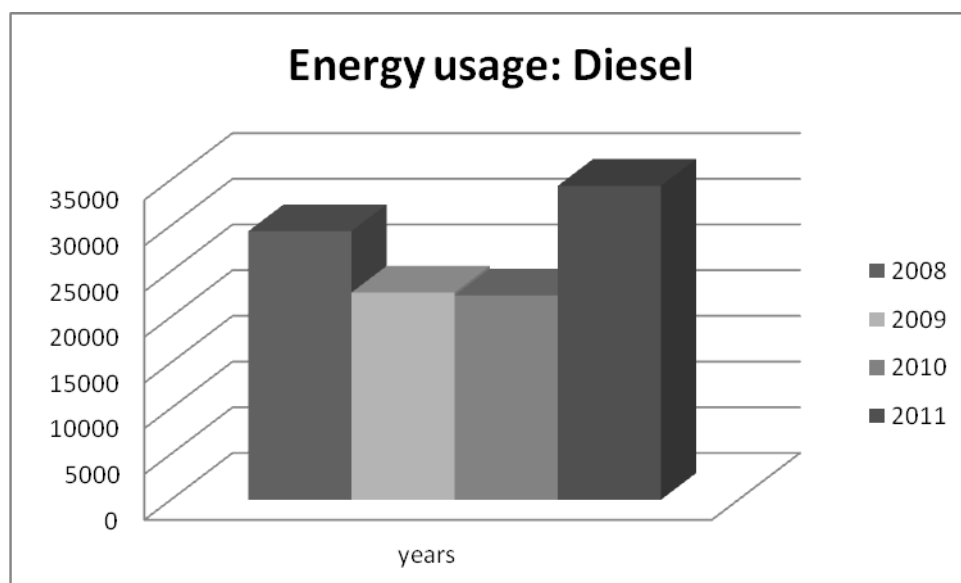
#### **4.4.2 Fuel – petrol and diesel usage at BAT Zimbabwe**

The research found that at BAT Zimbabwe, old petrol vehicles that could not be replaced due to poor performance of the economy, continued to be used; hence the company had high fuel consumption rates. However, due to the reduction of petrol vehicles as a proportion to diesel vehicles for both marketing distribution and management, reduced petrol usage was recorded in 2010 and 2011. Under normal circumstances, in a normal economy, BAT could have used far less fuel and financial resources, as the company could have purchased new cars implying a lower carbon footprint per kilometre travelled.



**Graph 4. 2: - Petrol usage (in metric litres) at BAT Zimbabwe from 2008 to 2011**

Diesel usage at BAT Zimbabwe is shown below.



**Graph 4.3: - Diesel usage (in metric litres) at BAT Zimbabwe from 2008 to 2011**

Below is a table for BAT Zimbabwe coal and other non-renewable energies like diesel and petrol at BAT Zimbabwe Cigarette Plant from 2009 to 2011

**Table 4.3 Coal and other Non-renewable Energies usage**

		Unit of Measurement	2010 Actual	2011 Actual	2011 target
<b>Environmental Performance Indicators</b>					
<b>Direct Energy use (segmented by Source)</b>	Total direct non-renewable energy use	GJ	18,783	26,013	17,924
	Total direct non-renewable energy use /million cig equiv, produced	GJ/million	6.30	5.75	6.18
	Total sites and offices direct energy use	GJ	23,473	15,244	

	Other vehicles direct energy use	GJ	2,825	2,540	2,680
	Trade marketing fleet direct energy use	GJ	0	0	0
	Trade marketing fleet energy/million cig. Sold	GJ/million			0.0
	Direct distribution – finished product – fuel volume proportion	Litres	0	0	

From the EH and Sub-Summary Report of 2010 which I was provided with, and interviewing the EH Officer and the Head of Engineering and Manufacturing (the two key informants) the research found that the total direct non-renewable energy use was 26.013 G/Joules in 2011 as an actual figure, up from 17,924 planned, as production improved due to an improved economy. It was 18,783 in 2010. Total sites and offices direct energy use was 15,244 in 2011 as an actual figure, down from 23,473 in 2010 as more energy saving techniques were implemented. The research further found that one of the main concerns of BAT top management is energy security and the reduction of use of energy is a key BAT Zimbabwe priority. To this end BAT Zimbabwe has put plans in place to reduce its own usage of direct energy from non-renewable sources by 6.7% by end of 2012. This applies also to the BAT group at global level freight.

#### **4.4.3 Indirect energy use at BAT Zimbabwe from non-renewable Energy (segmented by source) as an Environmental Performance Indicator**

##### **4.4.3.1 Electrical energy**

The research looked at indirect energy use from non-renewable sources (as segmented by source) as one of the environmental performance indicators. Again the EH and S Sub Summary report of 2010 was used together with key informant interviews and focus group discussions. From these interviews it was indicated that in 2008 there was generally low economic activity, which meant cigarette demand, and purchases were low at the turn of 2007 and hence less production was recorded in 2008.



The Head of Manufacturing and Engineering who was one of the key informants in the factory interviews, confirmed that this was one of the main reasons for the low usage of electrical power driving machines in cigarette production. This low capacity utilisation by BAT Zimbabwe of the factory was due to lower capacity to generate electrical energy and related power by the country. These incessant power outages were due to an imposed load shedding nationally. Demand was more than supply, as the economy could not secure enough energy due to shortages of foreign currency and other resources to generate power. This resulted in incessant power rationing, as other manufacturing industries in the country also demanded more power.

For businesses it is the ability to survive, adapt and grow in the face of turbulent change (Carpenter, Walker Anderies and Abel, 2001: 766 in Haywood et al, 2010). From the interviews held and also from the company annual report, it was shown that there was an increase in the economy and production stability as the economy was dollarised in February of 2009. Hence production was better as power generation and production utilisation improved in 2010 and 2011. During these periods there were reduced power outages and foreign exchanges supply had improved. As a result of these events there was improved factory capacity utilisation that resulted in improved production during the period although BAT Zimbabwe was not happy with the supply levels. This led to BAT Zimbabwe looking at other alternative power sources to reduce production downturn in an improving economy. The other reason why BAT Zimbabwe also made a transformation to endeavour to use green energy was due to the increased cost of replacing damaged ELD electrical lights and other components that occur when power is being restored. Below is a table for BAT Zimbabwe direct energy usage in the cigarette plant and other indirect energy usage from 2009 to 2011.

**Table 4.4 Direct energy usage at BAT Zimbabwe.**

		Unit of Measurement	2010 Actual	2011 Actual	2011 target
<b>Environmental Performance Indicator(s)</b>					
<b>Indirect Energy use</b>	Energy to produce/deliver energy	GJ	19,847	25,220	18,628
	Indirect Energy use/million cig. equiv, produced	GJ/million	6.66	5.57	6.42

<b>Other indirect energy use</b>	Other indirect energy use	GJ	2,852	4,476	2,723
	Other indirect energy use/million cig. Equiv produced	GJ/million	0.96	0.99	0.94
	Business travel indirect energy use	GJ	504	422	375
	Freight (by other indirect energy use)	GJ	2,348	4,054	2,348

#### 4.4.3.2 Renewable energy as environmental performance indicators

From the interviews held with key informants, being the EHS Officer and the Head of Manufacturing, the research also found that in 2009, due to incessant power outages, BAT Zimbabwe introduced generator produced renewable power generation to curb the menace of cigarette production disruption at the factory. This was mainly by the introduction of power generators to take over the use of unreliable electrical power in cigarette manufacturing. Adaptation is key for business survival. Haywood et al argued that one of the aspects of resilience is adaptive capacity that then reflects learning, flexibility and solving of problems, decision making, and storing of knowledge, and therefore resilient businesses are able to grow in the face of uncertainty and unforeseen disturbances and disruptions ((Du Plessis, 2008: 67 and 78; Haywood et al, 2010). Further argument proposed by Korhonen and Seager (2008) is that when an organisation is able to change practice, resource allocations, designs and relationships or any other significant aspect of business in relation to changing conditions then it is able to adapt (Korhonen and Seager, 2008 in Haywood et al, 2010).

Figures from BAT Zimbabwe in the EH and S Sub Summary report of 2010 indicated that in 2010 renewable power contributed 13,25% of total BAT Zimbabwe energy usage, and 11,95% in 2011. The same report indicated that in 2012 it is estimated that about 13,04 % of BAT Zimbabwe energy use will come from renewable sources as a sustainability indicator. Below is a table for BAT Zimbabwe renewable energy use from 2009 till 2011.

**Table 4.5 Renewable energy at BAT Zimbabwe.**

		Unit of Measurement	2010 Actual	2011 Actual	2011 Target
<b>Environmental Performance Indicators</b>					
<b>Renewable Energy</b>	<b>Renewable Energy use</b>	<b>GJ</b>	<b>2,867</b>	<b>3,644</b>	<b>2,691</b>
	Renewable Energy as a % of BATZ energy use	%	13,25 %	11,95 %	13.04 %

From the interviews that I did with the key informants, the research found that, in order to reduce its own use of direct energy by 6.7% by the end of 2012, more is expected from such sites like Zimbabwe and South Africa in Southern African. This is given their volume and quality of production, should BAT Global want to have a truly reduced energy usage in its Africa operations. South Africa accounts for 90 % of BAT Southern African markets' tobacco cigarette production.

#### **4.4.4 Total BAT Zimbabwe energy use as an environmental performance indicator**

**Table 4.6 Total BAT Zimbabwe Energy Use**

		Unit of Measurement	2010 Actual	2011 Actual	2011 Target	2012 Target	Target % Change
<b>Environmental Performance Indicators</b>							
<b>Total Energy</b>	<b>Total Energy use</b>	<b>GJ</b>	<b>21,635</b>	<b>30,489</b>	<b>20,647</b>	<b>N/A</b>	<b>N/A</b>
	<b>Energy use/million cig. Equiv. produced</b>	<b>GJ/million</b>	<b>7,26</b>	<b>6,73</b>	<b>7,11</b>	<b>7,04</b>	<b>4,48%</b>

From the research conducted, overall BAT global (inclusive of BAT Zimbabwe), stated that it is committed to reducing energy use in all its operations. It aims to do this through careful assessment and planning of energy consumption to maximise efficiency by realistically investing in energy efficient equipment. For BAT Zimbabwe, this has already started to happen.

#### **4.5 Water (H<sub>2</sub>O) consumption in BAT Z operations as an environmental performance indicator.**

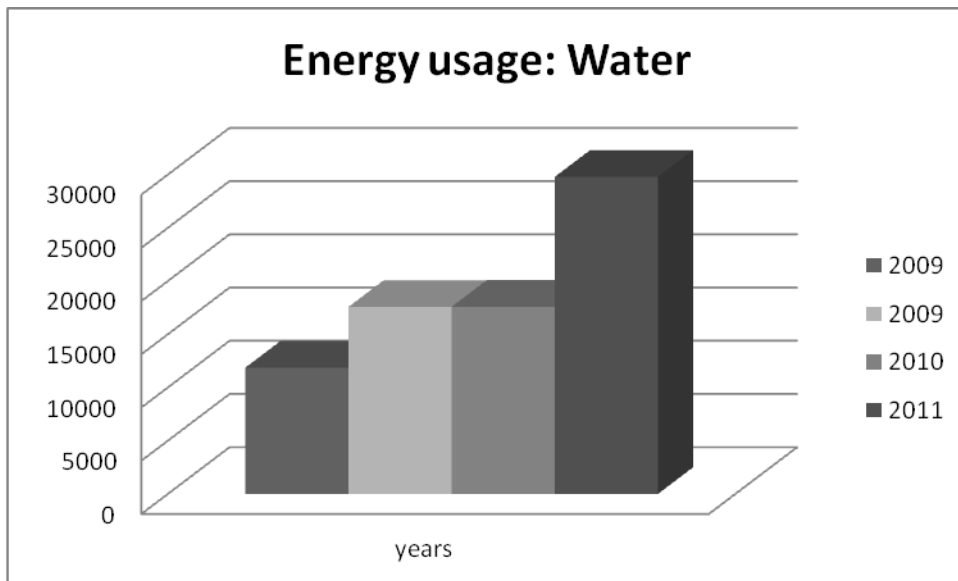
The Global Environmental Outlook 4th report indicates that there is a global decline in the available water per capita and that water contamination is the greatest environmental cause of sickness globally (UNEP: 2007:4). Water is the main limiting factor for agricultural, food and manufacturing production in many regions and agriculture uses more than two thirds of water consumed globally (Gliessman, 2007). Postel and Vickers (2004) put it at 70 percent. The UNEP report indicates that if the present trends of water consumption and exploitation are maintained:

- 1.8 billion people will be living in regions of water scarcity by 2025.
- Two thirds of the world population will live under water stress conditions.
- Aquatic ecosystems will be negatively impacted, hampering the provision of their services due to the decline in quality and quantity of water resources.

In a one-on-one interview held with the EHS Officer, the research found that in 2008 BAT Zimbabwe had low cigarette production levels due to the economic downturn. This actually caused lower rates of water usage in the cigarette plant. During the 2009 to 2010 production and marketing year, as a result of poorly maintained infrastructure for water reticulation, there were a number of water burst cases, which affected the delivery of water to BAT Zimbabwe. Hence this affected water quantities for cigarette production, as a lot of this pipe damage occurred around the plant. These losses were not immediately detected and as a result, a lot of water was lost due to leakages.

The research found that currently BAT Zimbabwe is not recycling water as an environmental material resource due lack of facility and low volume of wastewater. However there are approved plans and supporting budgets for this going forward. In a country purged by serious water shortage and serious lack of financial resources to maintain water reticulation infrastructure, this situation, which currently obtain at BAT Zimbabwe raises serious environmental sustainability questions.

According to the company's 2009 sustainability annual reports globally BAT has developed and strengthened its water strategy and is committed to further reduce water usage in all of its global operations. To achieve this BAT Zimbabwe has targeted to reduce water use by 13.4 % by the end of the 2012 financial year. Below is a visual graph for BAT Zimbabwe water consumption from 2009 to 2011.



**Graph 4:4- Water usage (in metric litres) at BAT Zimbabwe from 2008 to 2011 (change to 2008 at top of table)**

**Table 4.7 Water consumption from 2009 to 2011 at BAT Zimbabwe.**

		Unit of Measurement	2010 Actual	2011 Actual	2011 target	2012 target	Target % Change
<b>Environmental Performance Indicators</b>							
<b>Total Water drawn</b>	Total Water drawn	Cubic metres	17,580	29,790	15,380		
	Total water use/million cig. equiv. produced	Cu. Metres/million	5,90	6,58	5,30	6,01	-8,,61%
<b>Significant Discharges to(?) water by type</b>	Total Water Discharged	Cubic metres	15,534	2,658	-	-	-
	Water (>) discharge./million cig. equiv. produced	Cu. Metres/million	5,21	0,59	-	-	-
	Process and sewage wastewater	Cubic metres	15,534	2,658	-	-	-

	Storm water discharged	Cubic metres	0	0	-	-	-
<b>Total water Consumption</b>	Total Water consumption	Cubic metres	2,046	27,132	-	-	-
<b>Total Water Reused as a % of water available</b>		%			-	-	-
<b>Total Water Recycled and Reused</b>		Cubic metres	0	0	-	-	-

From interviewing the Head of Manufacturing and Engineering Peter Musarugwa the researcher also found that BAT Zimbabwe is planning to assess the water footprint of all its operations with heavy emphasis on tobacco growing. This will add data resource inputs to its global water strategy so that the group can further reduce water usage in its supply chain, pushing its own sustainability front. Being a global player BAT has a lot of industry leadership to show in this regard, going forward. In this way BAT is anticipating future environmental challenges and potential risk issues in its sustainable business operations by being part of the socio-ecological system. This corporate approach and emerging culture has been fully disclosed to its entire staff.

#### **4.6 Factory waste management as an environmental performance indicator at BAT Zimbabwe.**

From the one-on-one interview that I had with the EHS Officer on factory waste management, the total factory waste generated in 2010 was 191 tonnes. These wastes are cut-rage tobacco. It went down to 189 tonnes in 2011 due to the economic activity in relation to the planned 165 tonnes. This translated to 0,06 tonnes of waste generated per million cigarettes produced in 2010. It was 0,06 in 2011 up from 0,04 planned for the same year. For second quarter 2012 it was 0,06 up from the planned 0,05 of the same year, a 14,44% increase. From the same interview, in terms of total waste recycled, it was 164 in 2010. The 2011 figures for waste recycling were found to be 163 tonnes down from the planned 145 tonnes of the same year. From the EH and S Sub Summary report of 2010, the research also found that the total percentage (%) of waste recycled in 2010 was 86.21 %. It was 86.53 % in 2011. In 2011 first quarter it was 87.88 % down from the planned 88,12 % which was a 1.84 % change. All waste to landfill per million cigarettes equivalent produced was 0,009 tonnes in 2010. The target for 2012 is 0,006 tonnes, which is a 0,89 % target percentage change. By merely looking at these figures BAT is actually doing very well in terms of waste recycling and management.

Non-hazardous waste to landfill (i.e. not incinerated or recycled) was found to be 26 tonnes in 2010 and 25 tonnes in 2011 against the planned 20 tonnes of the same year. The research also found that BAT Zimbabwe is keeping records for all waste generated on site as required by the Environmental Management Act (EMA). Currently is not actively looking at non-hazardous waste recycling, non-hazardous waste management, and hazardous waste to landfill, hazardous waste recycling, hazardous waste incineration or any other hazardous waste management activities. Below is BAT Zimbabwe waste management figures from 2010 till 2012 targets

**Table 4.8 Waste management parameters at BAT Zimbabwe**

		Unit of Measurement	2010 Actual	2011 Actual	2011 Target	2012 Target	Target % Change
<b>Environmental Performance Indicators</b>							
<b>Total Amount of Waste generated by type and Destination</b>	Total Waste generated	Tonnes	191	189	165	-	-
	Total waste generated per million cigarettes produced	Tonnes/million cig pro	0,06	0,04	0,06	0,05	14,44%
	Total waste recycled	Tonnes	164	163	145	-	-
	Percent (%) Waste recycled	%	86,21 %	86,53 %	87,88 %	88,12 %	1, 84 %
	All waste to landfill per million cigarettes equiv produced	tonnes/million	0,009	0,006	0,007	0,006	0,89 %
	Non-hazardous waste to landfill (i.e. not incinerated or	Tonnes	26	25	20	-	-

	recycled)						
	Non-hazardous waste recycled	Tonnes	164	164	145	-	-
	Non-hazardous waste incinerated	Tonnes	0	0	0	-	-
	Other non-hazardous waste management	Tonnes	0	0	0	-	-
	Hazardous waste to landfill	Tonnes	0	0	0	-	-
	Hazardous waste recycled	Tonnes	0	0	0	-	-
	Hazardous waste incinerated	Tonnes	0	0	0	-	-
	Other hazardous waste management	Tonnes	0	0	0	-	-

From the same one-on-one interview and the Q2 EH and S Key Performance Metrics Highlights Report of 2010, the research found that BAT global seeks to reduce waste to landfill by 12 % in 2012. The research also found out that BAT has planned to recycle at least 85% of waste each year that indicates good sustainability practices for BAT Zimbabwe.

#### **4.7 Greenhouse Gas Emissions (GHG) as an environmental performance indicator**

From the Q2 EH and S Key Performance Metrics Highlights Report of 2010 and interviewing the EHS Officer at BAT Zimbabwe, the research found the following in terms of Greenhouse Gas Emissions at BAT Zimbabwe's cigarette production plant. The 2011 emissions of 2,913 tonnes were due to an increase in coal usage in cut rag making. The plants also used low-grade coal in 2011 as the Hwange the major supplier had serious problems due to machinery/equipment breakdown. It must be noted that Hwange has the best coal in the region. In general for BAT Zimbabwe, like any other production plant that uses coal, CO<sub>2</sub> emissions were affected mainly by plant efficiencies, use of poor coal quality in 2011. Emissions were largely coming from petrol usage, diesel usage due to transportation, waste to land fill, business travel, freight and other energy sources too. This poor grade



quality coal with low caloric value meant more coal was used to produce cut rag. The table below gives a complete picture of BAT Zimbabwe plant's GHG emissions. In general for BAT Zimbabwe, like any other production plant that uses coal, CO<sub>2</sub> emissions were affected mainly by plant efficiencies and use of poor coal quality in 2011. According to the EHS Officer, when one uses poor quality coal, to get the same level of heat, one will need to use more coal to get more energy per unit - ordinarily this will emit more carbon dioxide.

From the interview with the Head of Manufacturing and Engineering, BAT Zimbabwe, it was learnt that they also had poor and low mechanical boiler efficiencies, as low heat will cause combustion to be incomplete, causing too much emission, especially in 2011. These heat losses proved to be energy inefficient at that point at in 2011 and years before, affecting BAT's environmental sustainability metrics.

From the Q2 EH and S Key Performance Metrics Highlights Report of 2010 and interviews with key informants from the manufacturing side of BAT Zimbabwe, the research found that the BAT group is committed to further reducing its long-term CO<sub>2</sub> emissions targets. From the 1,38 tonnes of its year 2000 base year, BAT seeks to reduce CO<sub>2</sub>e by 50% by 2030 and by 2050 the figure /percentage should be 80% on all BAT operations in the world, including Zimbabwe. To this end, at a group level, BAT has developed CO<sub>2</sub> emissions reduction target plans starting with the largest manufacturing plants. It will also continue to work on the scope of reporting on carbon emissions. Below is the table for GHG emissions for BAT Zimbabwe up to 2011.

**Table 4.9 Green House Gas Emissions for BAT Zimbabwe up to 2011.**

		Unit of Measurement	2010 Actual	2011 Actual	2011 target
<b>Environmental Performance Indicators</b>					
<b>Green House Gas Emissions</b>	Total Carbon Dioxide Emissions	Tonnes	2,129	2,913	2,017
	CO <sub>2</sub> Emissions/million cig. Produced Equiv.	Tonnes	0.71	0,64	0,70
	Direct Emissions - WBCSD Scope 1	Tonnes	866	1,252	833

	Direct Emissions-WBCSD Scope 2	Tonnes	1,024	1,301	961
	Direct Emissions-WBCSD Scope 3	Tonnes	3,40	3,28	3,43
<b>EHS Road Map</b>			3,40	3,28	3,43

#### 4.7.1 Summary of atmospheric pollution control findings at BAT Zimbabwe

The BAT Zimbabwe factory emits from its boilers and hence there is a statutory requirement in Zimbabwe that these emissions be assessed in terms of the Environmental Management (Atmospheric Pollution Control) Regulations, 2009.

##### Fuel burning efficiency

In 2011, a certain company was tasked to look at BAT Z boiler efficiency and on the day of the research, the boiler had a fuel burning efficiency of 83.85% against an upper expected limit of 93.4% fuel burning efficiency, which gives a variance of 9.55%. This still allows an opportunity for improving the fuel burning efficiency against an expected upper limit of 93.4%.

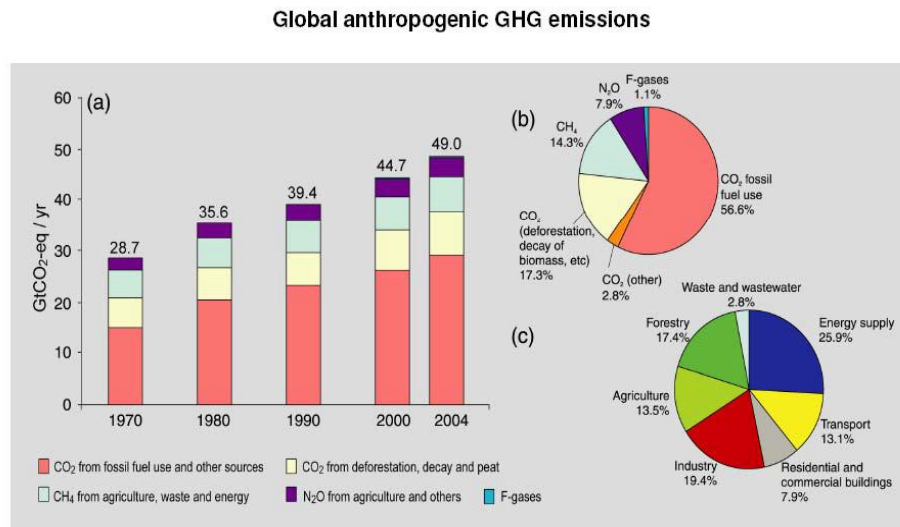
- 1. Sulphur dioxide emissions:** There observed to be 39.4mg/m<sup>3</sup>, which is negligible against a legal limit range of between 25 to 40mg/m<sup>3</sup>.
- 2. Carbon dioxide** concentration, which is responsible for global warming, was 0.82%. This is unavoidable for a fossil-fired boiler because nearly all of the fuel carbon (99 percent) in coal is converted to CO<sub>2</sub> during the combustion process.
- 3. Nitrous compounds** concentration averaged 127mg/m<sup>3</sup> against a legal limit range of 70, 100, 130 & 150mg/m<sup>3</sup> for the blue, green, yellow and red bands as outlined in Statutory Instrument 72 of 2009. This therefore means that the boiler's emissions would be classified in the yellow band.
- 4. Particulate emission** was lower than the legal limit the green band limit of 90mg/m<sup>3</sup>, which was below the red limit band of 120mg/m<sup>3</sup>.
- 5. Smoke density** was below 20%.

**Table 4.10 Indication of materials and energy used, and total waste and green house gas emissions generated (measured as total carbon dioxide emission equivalent).**

<b>Year</b>	<b>Total materials used (in tonnes)</b>	<b>Energy Used (GJ)</b>	<b>Total Amount of Waste generated (in tonnes)</b>	<b>Total Greenhouse gas emissions (in tonnes)</b>
2000	No data	No data	No data	No data
2001	5 664	92 092	993	9 241
2002	5 422	23 873	399	3 350
2003	3 093	13 712	289	1 176
2004	3 260	24 261	222	1 237
2005	3 963	29 627	244	3 457
2007	2 754	17 627	171	1 991
2008	2 631	26 723	168	2 349

**Source: BAT Zimbabwe Limited EHS Annual Performance Summary Reports 2000 – 2008.**

From table 4.10 above it can be noted that generation of waste and greenhouse gas emissions show a decreasing trend from as high as 993 tonnes of waste in 2001 to 168 tonnes in 2008, a decrease of 83%, with greenhouse gas emissions dropping from 9241 in 2001 to 2349 tonnes of carbon dioxide equivalent in 2008. The Kyoto Protocol on reducing emissions into the atmosphere requires that all businesses must plan for a greenhouse gases constrained future (Curtis, 2000). In line with the Kyoto Protocol, BAT worldwide including BAT Zimbabwe, set a target of 5.2% reduction in greenhouse gas emissions by 2008 in various BAT Zimbabwe operations. Indications from table 7 above show that BAT Zimbabwe has since surpassed this target by a wide margin. Greenhouse gas emissions have been reduced by about 75% from as high as 9241 in 2001 to 2349 in 2008. Such continuous improvement in applying methods of production that produces minimum wastes and greenhouse gas emissions has enabled BAT Zimbabwe to remain a competitive global player in the tobacco manufacturing and marketing business. Targeted greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons and sulphur hexafluoride (UNFCCC, 2009).

**Figure 4.1: Global anthropogenic greenhouse gas emissions.**

#### 4.8 Summary of Energy Usage at BAT Zimbabwe as an environmental performance indicator

In summary, below are the research findings on the full BAT Zimbabwe energy usage figures from 2008 to 2011. These figures were provided by the EHS Officer, the Engineering Head and also from the Q2 EH and S Key Performance Metrics Highlights Report of 2010. Overall BAT global stated that it is committed to reducing energy use. Its aim to do this by a carefully assessment and planning of energy consumption to maximise efficiency by actually and realistically investing in energy efficient equipment's such as LED lights and variable speed drives.

**Table 4.11 Summary Energy Usage at BAT Zimbabwe**

Energy usage	Unit of Measure	2008	2009	2010	2011	
Coal	Tonnes	449.9	419.6	380	611.68	
Electricity	Kilowatt hours (KhW)	1331330	1693560	1789920	2274544	
Water	Cubic metres	11859.11	17563	17580	29787.71	
Fuel	Litres (l)					
Petrol	Litres	59001	51642	59935	38696	
Diesel	Litres	29382	22665	22352	34352	

## 4.9 Summary of BAT Group Key Sustainability Performance Indicators

### 4.9.1 BAT Group and Unit Policy

These were not made available to me.

### 4.9.2 Summary of key group sustainability performance indicators

In summary, the table below shows how BAT Global performed in terms of key group sustainability performance indicators.

**Table 4.12 Summary of BAT Group Key Sustainability Performance Indicators**

		2009	2010	2011	Trend
<b>(a) Market Place</b>					
<b>International marketing Standards</b> (Number of reported incidence of partial or non-adherence)		15	6	21	Declined
<b>Youth Smoking Prevention</b>  (% of reporting markets on running youth smoking prevention programmes)		33	72	73	Minimal increase or no change noted
<b>Preventing underage Access</b>  (% of reporting markets on where BAT business report that they are engaging government help to prevent underage access to tobacco)		39	49	50	Minimal increase or no change noted

<b>(b) Environmental Performance</b>					
<b>Energy</b>	GJ/Million cigarettes equiv)	11.37	11.08	<b>11.02</b>	Improved
<b>Water Use</b>	(m3/million cigarette equiv)	4.45	4.11	<b>4.33</b>	Improved
<b>Waste to Landfill</b>	(tonnes/million cigarette equiv	0.02	0.016	<b>0.02</b>	Improved
<b>Recycling</b>	(% of waste generated)	83.31 %	85.36%	<b>84.5%</b>	Minimal/not changed much (less than 2 %)
<b>(c) Supply Chain</b>					
<b>Wood fuel sources</b>  % source of wood used in growing programmes	Company sponsored or advised	66.4	59.2	<b>62.9</b>	Improved
	Commercial forest	27.2	28.8	<b>29.8</b>	Improved
	Natural/indigenous forest	4.3	12.1	<b>7.3</b>	Improved
	Unknown source  All unknown sources have been identified hence from 2010 this category has been deleted.	2.1	-	-	-
<b>Social Responsibility in Tobacco Production</b>  (average % of leaf suppliers` self assessment scores)	Social Responsibility Policy	87	93	<b>93</b>	Minimal/not improved (2% points or less)
	Agronomy	59	65	<b>67</b>	Improved
	Tobacco Processing	73	79	<b>81</b>	Improved

	Socio-economic factors	85	90	<b>91</b>	Minimal/not improved (2% points or less)
<b>Child labour section of the Social Responsibility in Tobacco Production</b>  (Average % of leaf suppliers` self assessment scores)		83	87	<b>90</b>	Improved
<b>Lost Work Day Incidence Rate (LWCIR)</b> <b>(targeting 0.2 or less)</b>  (Calculated as lost workday cases through injuries x 200,000 divided by total hours worked)		0.37	0.27	<b>0.26</b>	Improved
<b>Serious Injuries and Fatalities</b>	Employees	22	25	<b>18</b>	Improved
	Contractors	6	4	<b>19</b>	Declined
	<b>Total</b>	28	29	<b>37</b>	Declined
<b>(d) People and Culture</b>					
<b>Local succession coverage – 1:1:2 business unit level</b>  (Average % of BU with at least one local successor in the short term and two local successors in the long term for each senior position)	<b>Short term</b>	58	57	<b>51</b>	Declined
	<b>Long term</b>	63	43	<b>53</b>	Minimal increase or no change noted

<b>Local top teams – 70:30 at business unit level (?)</b>		55	51	<b>57</b>	Improved
<b>Employee Opinion “Your Voice” biennial survey.</b> (BAT vs. Towers Watson Global FMCG Benchmark)	Score in the engagement category	77 (2008)	78	-	Minimal increase or no change noted
	Ranked by difference from the bench mark	+5 (2008)	+2	-	Declined
<b>Gender Diversity</b>  (Percentage of women in management positions)	Management Trainees	48	48	<b>47</b>	Declined
	Management Grade 34	33	35	<b>34</b>	Declined
	Management Grade 35	32	32	<b>33</b>	Improved
	Management Grade 36	28	29	<b>29</b>	Minimal increase or no change noted
	Management Grade 37	23	24	<b>25</b>	Improved
	Management Grade 38	13	15	<b>16</b>	Improved
	Management Grade 39	9	8	<b>10</b>	Improved
	Management Grade 40	4	5	<b>5</b>	Minimal increase or no change noted
	Management Board	0	0	<b>0</b>	no change noted
	Non –Executive Directors	38	33	<b>33</b>	Minimal increase or no change noted

#### 4.10 Summary BAT environmental goals and targets set for 2012 and beyond.

The persistent call for corporations to be socially and environmentally responsible originates from sustained pressure exerted by a range of stakeholders, including customers, communities, employees, governments, and shareholders (Sethi, 2003; Epstein, 2008; Hess & Warren, 2008; Sarkar, 2008).



To further critically assess its environmental efficacy, the Zimbabwe operation, guided by its global parent, set environmental targets relative to what it calls per million cigarettes equivalent.

- From its 1, 38 tonnes of its year 2000 baseline BAT seeks to reduce CO<sub>2</sub>e by 50% by 2030 and by 2050 the figure /percentage should be 80%.
- To develop new goals for energy, water and waste management measurement by the end of 2012

While the full sustainability strategy was not made available, what is known is that from its 2007 baseline and corporate strategy, the group seeks:

- to reduce its own use of direct energy by 6.7% by 2012;
- to reduce water use by 13.4 % by 2012;.
- to reduce waste to landfill by 12 % and to complete the strengthening of BAT sustainable water management strategy by 2012;
- to recycle at least 85% of waste each year;
- to Incorporate renewable and low carbon energy options into the development plans to help meet BAT long term CO<sub>2</sub> targets by end of 2012;
- to complete the next round of biodiversity and opportunity assessments , using an updated tool in all tobacco growing regions by 2014; and
- to conduct research to verify the apparent return of wildlife to trails of the re-established natural forest in areas like Sri Linka by end of 2012.

#### **4.11 Broad statement of future commitment to address negative effects of BAT Business operations on the natural environmental**

The effects of climate change and growth will definitely have a more negative effect for BAT Zimbabwe and the rest of the group in securing tobacco leaf, cigarette distribution, communities and general landscapes in which BAT Zimbabwe operates. Hence according to the group and especially BAT Zimbabwe, there is an immediate need to look into and address immediate environmental impacts and all likely key pressures on the business operations. In view of this the organisation will be focusing on reducing and minimising its operational impact on climate change and prepare, as far as possible for the business risks ahead. The research found that BAT's long term risk planning, particularly around water usage in operations will be fundamental in managing and sustaining their operations in the future. All this will be done through flexible partnerships with other major

international organisations and local communities, as environmental problems cannot be effectively tackled by one organisation alone.

In conclusion, setting of new EHS targets for BAT Zimbabwe have been delayed just like any other targets in the BAT family globally due to the need for BAT global to review its approach and seek advice on the most appropriate measures to be taken to ensure continuous improvement within the group. As argued by Sethi, and others, business stakeholders, such as customers, communities, employees, shareholders and government, have been making repeated calls for corporations to be both socially and environmentally responsible (Epstein and Roy 2003; Sethi, 2003; Epstein, 2008; Hess and Warren, 2008; Sarkar, 2008 in Eweje, 2011a). This is mainly coming from the argument that business can play a significant role in advancing society towards sustainable development by reducing environmental deterioration, poverty and general social inequity (Epstein and Roy 2003; Eweje, 2011a).

#### **4.12 Sustainability leadership through innovative wood fuel efficiency in tobacco curing**

Corporate sustainability is incomplete without a complete understanding by senior management and the corporate relationship with its broader stakeholders in as far as they are confronting sustainability challenges and opportunities (Eweje, 2011a). He further argued that it takes leadership (and certain type of leadership) to integrate the sustainability agenda (i.e. initiatives and practices) in the broader business structure, as it needs vision, commitment and leadership (Azapagic, 2003; Epstein, 2008 in Eweje, 2011a).

In my interview with the BAT Zimbabwe top management, the Managing Director Mr Lovemore T Manastwa and the Leaf Sustainability Manager, Eddie Mandivhenyi being key informants, the research found that one of the critical collaborative developments on the sustainability front is the Rocket Barn Design which is improving wood fuel efficiencies in tobacco curing for small scale farmers contracted by BAT Zimbabwe. From January 2010 to April 2011, BAT Zimbabwe, in collaboration with the Northern Tobacco and Tobacco Research Board (TRB) started piloting the project to assess the performance of the Rocket Barn design. TRB constructed test rocket barns at its Kutsaga Research Station in Harare. A conventional barn was used as a control, with results showing that the Rocket Barn uses 50% less wood than conventional barns. The research found that due to its advantages for the small-scale farmer, BAT Zimbabwe is encouraging all contracted farmers to switch over to rocket barns, with the goal of using sustainable sources of eucalyptus woodlands by 2015 from which year BAT will no longer be buying tobacco cured from unsustainable sources like natural woodlands. The scheme and technology is being rolled out throughout all the major tobacco growing regions in Zimbabwe. This concept has made big impressions and interest of global proportions in the tobacco community. BAT Zimbabwe has led the world in this innovation for wood fuel energy efficiency. From the same interview, this innovation has come handy as BAT Zimbabwe and BAT

global have set themselves a target of zero use of natural forests in tobacco curing for all BAT contracted farmers by 2015. One of the key activities being done towards achieving this target is looking at innovative methods for tobacco curing. The Rocket Barn tobacco curing pilot programme is one such method for improving fuel efficiency. .

According to Mr Manatswa the impact will be manifold:-

- (a) Biodiversity conservation through the use of eucalyptus forests towards the 2015 global campaign for zero natural forest usage in the BAT group leaf supply chain.
- (b) Use of less wood fuel in tobacco curing thereby reducing energy used in the BAT supply chain.
- (c) Improvement of ecological aspects of the farming community ensuring leaf and food security for farmers
- (d) Reduction in the negative ecological impact and carbon footprint in the BAT tobacco supply chain
- (e) Reduction in indigenous deforestation by resource-poor farmers

For full details on this sustainability innovation, see Appendix I

#### **4.13 BAT Zimbabwe Social Responsibility**

##### **4.13.1 Section introduction**

There is a powerful argument that CSR in developing countries is mostly directly shaped by the socio-economic environment in which firms operate and the developmental priorities it creates (Visser, 2010: 482). In this regard and for this section I interviewed the BAT Zimbabwe top management in the CORA, the key informants being Shungu Charundu Head of CORA and Leigh Brakeway, the Manager of CORA. Those of farmers confirmed their views on the ground in Mutare/Odzi, Chegutu, Mvuma and Marondera.

From the 2010 BAT Sustainability Report, the research found that BAT Zimbabwe has a Corporate Social Investment (CSR) strategy, which is crafted at the group level and gets cascaded down to country level operations. The global strategy for the 2011/12year had three operational areas from which BAT Zimbabwe, and any other country operation, can choose CSI programmes/projects, in order to make a difference in the lives of the surrounding community. These are Sustainable Agriculture and Leaf Sustainability, and Empowerment and Civil Life. Country operations are then given the liberty to choose and justify projects for CSR /me funding at their sole discretion, taking into consideration budget votes/allocations, availability of other resources and programme /project sustainability. For BAT Zimbabwe, the research found that empowerment was chosen as the principal

and core CSR pillar on which most CSR projects will be implemented. For BAT Zimbabwe it's about working towards a positive, responsible and sustainable social and economic impact on the lives of contracted small-scale farmers through SRTP.

#### **4.13.2 Social Responsibility in Tobacco Production (SRTP)**

The research found that for BAT Zimbabwe Corporate Social Responsibility is about entrenching the core principles of responsibility in tobacco production. BAT Zimbabwe runs a Corporate Social Responsibility in Tobacco Production Activities (SRTP) programme in which a standard template in tobacco production is used. All farmers who are growing tobacco for BAT Zimbabwe are contracted via a contractor called Northern Tobacco. Northern Tobacco then works with all registered tobacco farmers to ensure that there is progress towards reaching a stage where all production and curing of tobacco is based on using sustainable sources. For this purpose, a target was set to plant four (4) million Eucalyptus trees in plantations and woodlots in all the major tobacco growing regions in Zimbabwe, being Marondera, Mashonaland East, West and South and Manicaland. During 2011/12 about 1,5 million seedlings were distributed and 2 million seedlings will be distributed in 2012/13, which is about 25% of the targeted hectares. During the last year it will sell about 2, 5 million seedlings to its contracted farmers. The programme will be used as a springboard by the Tobacco Industry and Marketing Board (TIMB) to promulgate a new tobacco Act and policy on cleaner, greener, more friendly and sustainable production methods of growing tobacco in Zimbabwe.

BAT is also playing a significant role in moving its contracted farmers from conventional production of tobacco seedling where heavy amounts of methylobromide are used as seedbed chemicals to kill/destroy soil pest like nematodes. Methyl bromide application and use makes soil sterile for more than three years after application and it means farmers cannot use the same land for any other production except tobacco. It also means farmers who do not have the funds to use methylbromide will, but default also not use fire to burn seedbeds towards nematodes free crops but use float tray system for even cleaner tobacco production where plastics are removed from the value tobacco chain and value system of the crop. Soil microbes and organic content are heavily affected. This innovation by both BAT and TRB will mean reduced use of farming chemicals thereby boosting soil microbiology and fertility. This initiative means sustainable enterprise production and ecosystem improving hence improving tobacco and other crops viability for both farmers and BAT. In the long run farmers will be more productive as BAT is taking a long and sustainable look in tobacco production systems.

Eweje argued that sustainability has ignited a great deal of discussion and interest from governments, communities, media, corporates, the academia and other institutions, and this could be coming from

mainly two sources of why this is so. The one could be less government intervention on the environmental and social impact of business, the other being the process of globalisation that has resulted in increased investment and international trade of goods and services (Eweje, 2011a). As argued by Sethi and many others researchers, the business's stakeholders, such as customers, communities, employees, shareholders and government, have been making repeated calls for corporations to be both socially and environmentally responsible (Epstein and Roy 2003; Sethi, 2003; Epstein, 2008; Hess and Warren, 2008; Sarkar, 2008 in Eweje, 2011a). This is mainly coming from the argument that business can play a significant role in advancing society towards sustainable development by reducing environmental deterioration, poverty and general social inequity (Epstein and Roy 2003; Eweje, 2011a. For more details see Appendix C

#### **4.13.3 Sustainable Agriculture for BAT Zimbabwe leaf and supply chain sustainability.**

One of the main worries that BAT Zimbabwe and BAT group in general is leaf and supply chain sustainability in the face of changing laws, climate change, and the global population boom to 9 billion by 2050, and shifting and constantly changing consumer needs. Added to this is economic progress where it is projected that disposable income especially in the middle-income population groups, will grow. The culmination and quantum directional effects of all these developments will be the generation of increased competition between crops for energy, land and water. Overarching all these is how BAT Zimbabwe views leaf sustainability being the most significant part of its entire supply chain sustainability strategy and agenda.

From interviewing Eddie Mandivhenyi (BAT Zimbabwe Leaf Sustainability Manager), who is one of the key informants in the leaf sustainability divisions of BAT Zimbabwe, the research found that one of the BAT Zimbabwe CSI Programmes is based on sustainable agriculture. The research also found that BAT Zimbabwe expects corporates and businesses in general to play a more significant and greater roles in addressing social and environmental issues through what they call; "influence and private-public partnerships". To this end BAT Zimbabwe works with Northern Tobacco to deal with key agricultural issues of tobacco production inputs supply to all contracted farmers, seedlings distribution, tobacco agronomy using best standards and practices and also assist BAT Zimbabwe rolling out an afforestation programmes. To this end Northern Tobacco has employed 15 employees and BATZ has stationed two of its key leaf sustainability staff members to be based at this company. These two positions are the Leaf Sustainability Manager and the Leaf Sustainability Officer. These two form part of the 800 Leaf Managers, Officers and Leaf Operations Technicians scattered in BAT operations around the world.

The research also showed that the agronomists employed by Northern tobacco assist tobacco farmers with crop agronomic support other than tobacco, hence ensuring food security for the BAT Zimbabwe contracted farmers, their families and local communities in major tobacco growing regions in

Zimbabwe. In summary the BAT Zimbabwe leaf sustainability team and Northern Tobacco agronomists endeavour to:-

- (a) Give practical guidance in improving the long term potential of agricultural soil, farm resources and the benefits of crop rotation issues;
- (b) Give information to all contracted BAT Z tobacco farmers on relevant and timely best practice and practical agronomy; farm labour management, safety standards and the appropriate use of agrochemicals.
- (c) Critical technical advice on how to maximise yields, optimise crop leaf quality and achieve stable but optimal farming, enterprise and crop returns, thereby improving the long-term sustainability of the farms and the general environment.

The research also reveals that BAT Zimbabwe understands the complexities and nuances of agriculture, which is a complex interrelated social, environmental and economic undertaking. Hence BAT Zimbabwe will work to support a multi-sectorial, multi-stakeholder approach to sustainable tobacco farming. The research also finds that in this way BAT Zimbabwe is using its influence, which it has always believed in, in working towards best practice in tobacco production by farmers, ensuring improved local environments and livelihoods for all BAT contracted farmers. Lastly the research found that this approach to farming is aligned to the UN Declaration of Human Rights, the Organisation for Economic Development (OECD), Guidelines for Multinational Enterprise, OECD's revised Guidelines for Multinational Enterprises and the Conventions for International Labour Organisation (ILO) having gone through both BAT programmes and the referenced documents. Agronomic support makes sure that contracted farmers comply with group policy and local tobacco production laws in Zimbabwe. For more details see Appendix M

#### **4.13.4 Fighting against smoking by underage youth**

Many writers have criticized companies for not paying enough attention to their impact (social and environmental) due to what they referred to as “a lack of understanding” of the realisation and fact that environmental and social issues have become part of economic reality (Buchholz, 1993; Dehant and Atman, 1994; Welford, 1994, Jaffe et al, 1995, Porter, 1995, King and Lennox, 2001; Epstein and Roy 2003; Schaltegger and Synnestvedt, 2002 in Eweje, 2011a).

The research found that the BAT group has a global approach to Youth Smoke Prevention (YSP). From this approach, one of the key activities BAT Zimbabwe has been focusing on is empowerment education for cigarette dealers in the fight against smoking by under 18 youths. In this regard the company works with BAT cigarettes brand distributors and retail chains in educating them as to why BAT Zimbabwe is so concerned about who buys their cigarettes. To this end, annual campaigns are



launched encouraging cigarette traders to be responsible and to be the ears of BAT in screening those who purchase tobacco as smokers to deter underage smoking. In 2002 about 254 dealers in cigarettes were reached. Banners were given to dealers carrying messages educating smokers about the danger of underage smoking. The BAT Cigarettes Retail Association (CRA) and Ministry of Health in Zimbabwe (MoH) are key stakeholders that work with BAT Zimbabwe in critical collaboration to fight against underage smoking. The MoH provides technical health education information for the traders and potential markets. It also gazettes local laws against underage smoking. The CRA implements age restriction so that underage tobacco purchasing is prohibited as far as possible.

The research shows that in countries where laws are not clear about underage smoking BAT has kick started discussions with relevant government no laws preventing youth access to, and smoking of, tobacco in an attempt to come up with effective programmes. The research found that over 96 % of BAT operations, including BAT Zimbabwe country operations have such campaigns launched and monitored.



**Figure 4.2 BAT International Marketing Standards and campaign to deal with underage access to tobacco smoking.**

#### **4.13.5 Harm reduction in tobacco smoking**

Regulation can spur companies to develop innovative practices that are known to reduce social and environmental impact and at the same time improve operational efficiency (Epstein and Roy 2003; Dean and Brown, 1995; Porter et al, 1995 in Eweje, 2011a). The research found that despite well known health risks and increasing regulation (like for example the well known ban on sponsorship by tobacco companies in European soccer), people still choose to smoke. This was confirmed by the

World Health Organisation (WHO's) research estimate that of the world projected 9 billion population projected by 2050, it is estimated that about 2 billion of these will be smokers. The research found that BAT Zimbabwe is of the opinion that being faced with such a real situation in such a controversial business area, regulators and the public health community should involve the tobacco industry, and recognise the contribution BAT can make in coming up with a possible solution. Tobacco companies, like BAT are widely perceived to be part of the equation leading to this situation.

The research also found that BAT has a responsibility to continually look at and find ways to reduce, the health risks of their products in demand. In this view, the Group Scientific Director David O'Reilly concluded and expressed a view by saying " with increasing global population where more people are expected to be smokers, clearly to reduce the health impacts from smoking, prevention by quitting initiatives alone will not adequately reduce the situation. What is needed is a broad based approach, one that accepts that many adults are going to be smokers in the foreseeable future, using both tobacco and nicotine products, and in order to fully address this one needs to look at appropriate scientific and regulatory frameworks for the development and scientific assessment of these products, and monitoring of their use." To this end BAT (Zimbabwe), guided by BAT Global, is working towards the following smoking alternative solutions:

- (a) Developing "reduced toxicant cigarettes", and in their marketing, stress that new products are less risky. However this poses numerous scientific control and regulatory problems.
- (b) Commitment to develop new categories of "low toxicant smokeless" tobacco and regulatory approved nicotine products. The organisation is fully aware and knows that nicotine is not completely harmless on the "product risk continuum" with conventional cigarettes being the most risky.
- (c) Keep on focusing on changing consumer thinking and shifting expectations, in view of the above, by providing acceptable alternatives.
- (d) Advocating a "regulatory framework" for the development and sale of such reduced harm product offerings on the market
- (e) Advocating for no one-size-fits-all policy to adults smokers globally in all BAT markets by making available a range of alternative offerings.
- (f) Continuous support of regulations based on clear, very sound and robust evidence



- (g) Re-looking at plain labelling which is not based on evidence as it impacts on patents, and marketing, and can easily fuel black marketing in tobacco markets, which are too difficult to defeat as they affect revenue paid to governments.

In assisting the discussions, future direction and regulation, BAT has categorised both tobacco and nicotine products in a continuum in terms of their risk as reflected in the table below:-

**Table 4.13 Tobacco and Nicotine Product Risk Continuum**

**POTENTIAL RANKING OF OVERALL RISK**

<b>Conventional Cigarettes</b>	<b>Reduced Toxicants</b>	<b>Heat not burn cigarettes-like devices</b>	<b>Low-toxicant smokeless</b>	<b>Regulatory approved nicotine</b>
HIGHER				LOWER

In view of this, BAT Global has established a separate company called Nicoventures. The company will specifically focus on the development and commercialisation of regulatory approved nicotine products. It will mean the provision of socially accepted products by this company, with a safe alternative to cigarettes, by providing product offerings that markets and smokers actually want. To some extent this will mean meeting some of the concerns of the main public health professionals.



**Figure 4.3: - From Dunhill to Madison, here is a single sample of the BAT Zimbabwe's traditional cigarettes marketing offering**

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This final chapter provides an overview of the key findings of each research objective followed by other conclusions not directly related to the research objectives. The chapter also seeks to make recommendations to BAT Zimbabwe Top Management with regard to sustainability programmes, projects and initiatives going forward. Lastly areas of further research will be suggested and pointed out should other researchers express interest towards the BAT Zimbabwe sustainability case. As an international manufacturing and marketing company and like any other corporate operating in the global commercial space, BATZ is increasingly being called to be environmentally, economically responsible by its shareholders, clients and trading partners as it is part of and co-evolving with the socio-ecological and economic systems. For BAT sustainability is said to underpin its business philosophy and that it is all about shared value, creating value for its shareholders, as well as being in the best interest of their stakeholder. Further to this the company's sustainability agenda aims to build value for its shareholders by addressing social, environmental and economic impact. In addition, accessing finance through international banks has now placed huge obligations on corporates especially those like BAT Zimbabwe, to employ sustainable methods of clean production which are safe to human capital and which focuses on efficient utilization of materials and energy as well as apply production methods which generate minimum waste particularly greenhouse gases which harm the environment. This is part of good corporate governance; OSH and environmental issues have become part of the Global Reporting Initiative in pursuit of fulfilling good corporate governance standards. BAT Zimbabwe has never stopped operating since it was set up business in Zimbabwe even under very difficult economic operating environment. Part of such a success can be attributable to the fact that environmental, social and economic issues have remained perceived as an important element of BAT Zimbabwe's business strategy towards sustainable development/sustainability and corporate social responsibility.

Globally and locally BAT's value in supporting the green issues and hence its corporate brand as a leadership organization has been demonstrated through successful development of its partnership with non-governmental organizations, government and health and environmental organizations engaged in environmental issues and since 2001 BAT has included OSH and environmental performance in the company's social, environmental, economic and financial reporting. The Fifth Business Report in the OSH and Environmental Survey of Corporate Environmental Engagement that was published in February 2001 assessed performance as well engagement on environmental management. BAT

worldwide was rated 5<sup>th</sup> best of the FTSE 100 companies, 8<sup>th</sup> best of all 184 participating companies and best of the food, drink, tobacco and pharmaceuticals sector (Curtis, 2000). As the following sections show, BAT Zimbabwe has tried to demonstrate some level of commitment to sustainable development and sustainability issues with some degrees of success and otherwise.

## **5.2 Summary Findings**

The summary of findings is presented below per each specific objective as indicated.

### **5.2.1 Research Objective Number One**

*To ascertain if there is a link between BAT Top Management philosophy, corporate strategy and the company's corporate sustainability programmes, initiatives and other efforts and how they are communicate to the various stakeholders*

The research acknowledges BAT top management commitment and real action towards a sustainable business operation as it is putting in place and also updating an Environmental, Health and Safety (EHS) Management system that was officially put in place in 2002. This is the system that BAT Zimbabwe uses for reporting the Group's EHS section of the sustainability report. The BAT Group at the top level sets the parameters but country operations are given targets to achieve at the beginning of every financial quarter. Lastly the fact that in 2011 BAT introduced global new energy use reduction plans for its largest manufacturing sites around the world, and has begun to review the scope of reporting on energy continues to show top management's commitment to sustainable development philosophy.

The research found out that BAT Zimbabwe looks up to, and is motivated and is excited with BAT group vision on sustainable development and sustainability. The vision is stated as: "our vision of sustainable business is that of a company that manages the impact of its operations and products responsibly and prepares for a future in which it continues to create value for shareholders as well as being in the best interest of other stakeholders". There is no doubt that top BAT Zimbabwe management endorses this vision but I was not convinced that this vision has been cascaded down to floor-level employees sufficient enough. On entering BAT Zimbabwe entrance doors one is overwhelmed by this vision. The same vision also appears on the company's website, sustainability web page, official documents, reports, promotion and campaign materials. It is so visible one cannot miss this well articulated and postured vision but on the ground does this translate to clear understanding and action, I am not sure if there is full traction.

The group strategy is "to achieve leadership of the global tobacco industry, not just in volume but also in quality". The BAT strategy, which delivers on this vision, has four strategic pillars. The first one is

growth, where the organisation aims to increase market share with a heavy focus on Global Drive Brands and other international brands. The second is productivity, where the organisation focuses on continuous improvement in cost base reduction. The third is to be a winning organisation, for attracting, developing and retaining best people. Underlying all this is the fourth pillar: - responsibility “where BAT companies and all its employees are supposed to act responsibly, at all times, seeking also to understand it as integral to everything that the company does which is very important especially to a business such as their which pose real and serious health risk. Looking at BAT sustainability vision, strategy and development objectives, responsibility is believed to be permeating in the veins of BAT business operations. Ethical trading where BAT Endeavours to be an ethical corporation follows this to sustain its business growth model is linked to all BAT programme, initiative s projects on sustainable development.

At a global level, the governance of the BAT sustainability programmes and the Board’s Corporate Social Responsibility Committee, whose job is to make sure that all planned CSR/I works are on track, does their strategic management. This committee brings independent judgement to challenge the organisation by stimulating it further towards the sustainability of CSR agendas. The Dow Jones was the first index that attempted to assess the ability or otherwise of business to create and make long-term shareholder value by embracing opportunities and management of risks deriving from economic, social and environmental developments (Sz`ekely and Kirsch, 2005; Feng, Joung and Li, n.d).

In summary, BAT Zimbabwe is trying to focus on making sustainability efforts in the following areas: - non-renewable and renewable energy, carbon emissions, leaf and supply chain sustainability, water security, and biodiversity and waste recycling. In terms of CSR/I it is focusing on three high-level pillars of (a) empowerment, (b) civil life and, (c) sustainable agriculture. These are informed and driven mainly by the BAT global sustainability agenda and to some extent the Global Reporting Initiative template, as directed by key challenges facing the country in terms of resource scarcity. What then guides the company are the International Marketing Standards in production, manufacturing, marketing and other corporate activities. Key to this is the key understanding that BAT plays a critical role in influencing stakeholders’ views through research and best practice. Hence stakeholder engagement partners via stakeholder’s panels were found to be used by BAT. For example the company, through dialogue sessions with the public and key stakeholders, engages with the scientific and public health community, local communities and country governments. Quarterly briefs also bring information on current CSR focus, and projects funded and for all BAT Zimbabwe staff.

Around these identified global sustainability and CSR issues, regional and country level operations then come up with programmes, projects and initiatives in addressing these specific issues that are broadly identified and prioritised at a global strategy level. For BAT scholarships in the civil life programmes sustainable agriculture (where there is agronomy, afforestation, and restoration) and biodiversity conservation were key programmes. From the above it is concluded that BAT's tries to cascade from its vision a corporate strategy, programmes, initiatives, projects identified and co-crafted at the top level, but at the same time, give lee-way to country operations to have some degree of flexibility in choosing and prioritising programmes, projects and initiatives that are in line with the global focus but are also a chosen country priority. From the interviews held, by engaging stakeholders and shareholders, BAT exercises tries to influence in terms of future laws, regulation, best practice and general future sustainability direction. It is BAT's total belief that corporates will play a critical role in the future in addressing social, economic and environmental challenges facing society but it waits to be seen how BAT will be in front roll in this regard. The message BAT communicates on the sustainability agenda will also shape and frame the tobacco industry in general and the smoking community in particular, given its perceived influence on the industry.

To this end the management sustainability philosophy, company strategy and programmes, projects and initiatives are seem to be moving towards alignment though this will take some considerable amount of time. To this end what will help the company is its ability to effectively communicate one vision, one strategy, one philosophy, one hope and one action of responsible and ethical BAT business operation which takes leadership in addressing key challenges and issues in the tobacco industry.

The one fundamental principle underpinning the BAT business model is responsibility. When BAT talks about responsibility it is talking about the degree to which responsibility is embedded in its social, economic and environmental work and systems. In its understanding, the BAT Zimbabwe team believes that responsibility is about environmentally, socially and economically ethical trading as a fundamental and guiding commercial and business principle, that informs and models one's business philosophy. It is about trying to mitigate the risks of doing business or taking steps towards mitigation of dangers involved in doing business. BAT Zimbabwe has a number of kinds of drivers of its responsibility and sustainability programmes.

### **5.2.2 Research objective number two**

*To establish the degree of integrating sustainable development practice and initiatives into the BAT Zimbabwe business model in order to have long-term benefits for both the company and its various*

*stakeholders. These are an integral part of the socio-ecological system, and will help the business understand the resilience of the system and where in the system they should operate.*

Socio-ecological systems researchers and thinkers have noticed, a shift towards an understanding of an adaptive systems management perspective is happening, which is a move away from traditional prediction and control perspectives of looking at sustainable development (Du Plessis, 2008: 63; Haywood et al, 2010). This has come about as a result of the fact that phenomena have become more complex and unpredictable in their frequency of occurring, magnitude of change, predictability and threshold effects (Walker et al, 2002, Burns, Audouin and Weaver, 2006; Korhonen and Seager, 2008 in Haywood et al, 2010). The argument proposed by Korhonen and Seager (2008) is that when an organisation is able to change practice, resource allocations, designs and relationships or any other significant aspect of business in relation to changing conditions then it is able to adapt and survive (Korhonen and Seager, 2008 in Haywood et al, 2010).

The following sections are an attempt to summarise and recommend the degree of integrating sustainability initiatives by BAT Zimbabwe by looking at its current practise:-

BAT is playing a significant role in moving its contracted farmers from conventional production of tobacco seedling where heavy amounts of methylbromide are used as seedbed chemicals to kill/destroy soil pest like nematodes. Methyl bromide application and use makes soil sterile for more than three years after application and it means farmers cannot use the same land for any other production except tobacco. It also means farmers who do not have the funds to use methylbromide will, but default also not use fire to burn seedbeds towards nematodes free crops but use float tray system for even cleaner tobacco production where plastics are removed from the value tobacco chain and value system of the crop. Soil microbes and organic content are heavily affected. This innovation by both BAT and TRB will mean reduced use of farming chemicals thereby boosting soil microbiology and fertility. This initiative means sustainable enterprise production and ecosystem improving hence improving tobacco and other crops viability for both farmers and BAT. In the long run farmers will be more productive as BAT is taking a long and sustainable look in tobacco production systems.

In summary BAT has been widely perceived to be instrument in biodiversity conservation as it is now recognised by the both Ministries of Agriculture and Environment and a significant player in the national tree planting and afforestation programmes. By donating free natural wood seedlings to tobacco contracted farms in a way the company is contributing to replacement of natural woodlands that were cut during years of unsustainable farming. BAT is not selecting those farmers selling tobacco to inputs contract programme and those that have been with free Auction floor system.



BAT also provides some agronomic support services to all contracted famers which means more than covering support to tobacco crop only, the contracted famer has access to agronomic services to other crops they by increasing food security and livelihoods. To this end, famers are also taught sustainable farming practises preserving ecosystem services and sustainable faming communities in social cohesion as famers to do leave farmers seeking work in urban areas due to unviable farming methods caused by poor production.

Leaf and supply chain sustainability in the face of changing laws, climate change, the global population boom to 9 billion by 2050, and shifting and constantly changing consumer needs is one of main worries that BAT Zimbabwe and BAT Global has in general. Added to this is economic progress where it is projected that disposable income especially in the middle-income population groups, will grow. The culmination and directional effects of all these developments will be the generation of increased competition between crops for energy, land and water. BAT Zimbabwe views leaf sustainability being the most significant part of its entire sustainability agenda in its entire supply chain sustainability strategy. In summary BAT support to sustainable Agriculture is seen and supported as follows: - Through its contracting company, BAT Zimbabwe will continue to provide agronomic support to its farmers in order to have leaf sustainability, food security for its farmers and stable livelihoods in the societies implementing tobacco contract farming programmes. One of the challenges facing small-scale farmers in Zimbabwe is tobacco curing. For many years tobacco production, and any other farming activity for that matter, has caused extensive destruction of natural forest as farmers either seek to clear land for farming or look to natural wood fuel for curing tobacco.

In summary the introduction of renewable green energy initiatives at BAT Zimbabwe was introduced as a result of the fact that BAT had been experiencing incessant power outages and a low, infrequent supply of electrical power, severely affecting cigarette production lines over the years. BAT had to mitigate these effects by coming up with generator powered renewable sources of power. It was due to non-renewable power insecurity and low and unreliable power (even to this day and hour), that BAT Zimbabwe introduced the green imitative. At BAT Zimbabwe, renewable power generation is used each time there is a power outage. Almost every day from 05h00 till 10h30, BAT Zimbabwe uses its generator for powering the cigarette plant, office and other operations. To a lesser extent, this was driven by the global drive by BAT to reduce energy usage in all its operations. Currently at 13,5% of the total energy requirement for the whole company, BAT has still a long way towards drastically increasing the percentage contribution of renewable energy to its total energy requirements in its entire operations.

The research concludes that currently BAT Zimbabwe is not recycling water as an environmental material resource. But as the research noted there are approved plans and supporting budgets for this going forward. In a country purged by serious water shortages and serious lack of financial resources

to maintain water reticulation infrastructure, this situation, which currently obtain at BAT Zimbabwe raises serious environmental and water security and sustainability questions for the company.

In terms of carbon emissions the generation of waste and greenhouse gas emissions show a decreasing trend from as high as 993 tonnes in 2001 to 168 tonnes in 2008, a decrease of 83%, with greenhouse gas emissions dropping from 9241 in 2001 to 2349 tonnes of carbon dioxide equivalent in 2008. BATZ had poor and low mechanical boiler efficiencies, as low heat will cause combustion to be incomplete, causing too much emission, especially in 2011. The Kyoto Protocol on reducing emissions into the atmosphere requires that all businesses must plan for a greenhouse gases constrained future (Curtis, 2000). In line with the Kyoto Protocol, BAT worldwide including BAT Zimbabwe, set a target of 5.2% reduction in greenhouse gas emissions by 2008 in various BAT Zimbabwe operations. Such continuous improvement in applying methods of production, which produces minimum wastes and greenhouse gas emissions, has enabled BAT Zimbabwe to remain a competitive global player in the tobacco manufacturing and marketing business

In summary BAT Zimbabwe experienced coal problems leading to the company being forced to use low-grade coal. This coal produced low caloric value and the company had to use more coal to meet its total required caloric value. This resulted in huge emissions of carbon with a significant impact of carbon total CO<sub>2</sub> emission levels. This year, going forward, the plan has been to improve plant efficiency and secure higher-grade coal from Hwange Colliery Company (HCC) so that they will reduce their carbon footprint. The company has not yet started to think of capturing and treating carbon from the factory.

In summary the research found out that the total percentage of waste recycled in 2010 was 86, 21 % and 86, 53 % in 2011. Non-hazardous waste to landfill (i.e. not incinerated or recycled) was found to be 26 tonnes in 2010 and 25 tonnes in 2011 against the panned target of 20 tonnes of the same year.

The new initiative for 2015 of procuring tobacco cured from sustainable sources (tobacco cured from non-natural forests like eucalyptus) by the company, is one of the BAT Zimbabwe flagships social responsibility programmes in tobacco production, and will ensure that BAT will be only buying tobacco cured from sustainable sources. With both its Leaf Sustainability Management staff and Northern Tobacco overseeing this initiative, more tobacco farmers will be persuaded to conserve biodiversity by not using natural forests in tobacco curing in nearby their farms. A rich biodiversity means more productive agro-ecological regions, which means better control of pests and diseases, better soil and water managements and an improvement in the soil nutrient holding capacity of lands. Hence BAT Zimbabwe will have to make it happen by implementing its policy of procuring tobacco cured from sustainable sources, as this will lead a process where it will become an integral part of the socio-ecological system. This will help the farmers and other tobacco agribusinesses to understand the resilience of the system and where in the system they should operate. By having such a long-term



view, BAT will be able to manager potential risks and negative impacts in tobacco leaf security and sustainability in the face of climate change. For BAT, one of the challenges of the negative effects of climate change will be largely felt in leaf sustainability.

Recently BAT has been looking at climate change risk mapping. The research also showed that BAT Zimbabwe has been mapping the risks posed by climate change in its main operational sites and mostly important in the major tobacco growing regions. The company is doing this together with selected key stakeholders in material supply for its operations. Below is a summary of what the organisation is looking at:

- (a) Potential climate risk indexing currently now being (applied to each leaf growing region;)(I do not understand this)
- (b) Reviewing of the climate risk indices;
- (c) Potential energy security risks and impact on business;
- (d) Vulnerability of transport production and marketing infrastructure;
- (e) Water security, scarcity and flooding issues
- (f) Rate of urban growth and its impact on agriculture and tobacco production

The research concluded that when this climate change risk mapping is done and is now being used, this would give BAT Zimbabwe and BAT Global in general, more control and influence on the future and the long-term socio-economic issues facing company and its stakeholders. Currently it still remains a work in progress.

### **5.2.3 Research objective number three**

*To establish the depth, scope and culture of sustainability in terms of its embeddedness in the BATZ operations.*

Eweje argued that sustainability has ignited a great deal of discussion and interest from governments, communities, media, corporate, the academia and other institutions. This could be coming from mainly two sources of why this is so. The one could be less government intervention on the environmental and social impact of business, the other being the process of globalisation that has resulted in increased investment and international trade of goods and services (Eweje, 2011a). In terms of depth, scope and how sustainability culture manifests itself and is embedded in the BATZ operations, the following conclusion was drawn:-

The comprehensive Environmental, Health and Safety (EHS) Management system that was put in place by the BAT group back in 2002 to help define, monitor and capture sustainability parameters

like water and renewable and non-renewable energy usage, green house gas emissions, waste to landfill, waste recycling, and other social issues like CRR/I, lost day worker injury rate has been instrumental in entrenching sustainability efforts at BAT. From tobacco production, curing, transportation to marketing, manufacturing, cut-rage recycling, cigarette marketing, underage smoking deterrence to assessing risk within the entire tobacco value chain, this tool will helped to continue embed sustainability practises on the EHS Sub Summary Reporting portal for capturing what is taking place in the operations of the company. To some degree only employees that are evolved in the day-to-day management of the respective sustainability parameter and interface have a full understanding and direct control of those sustainability issues and parameters. To this end the involvement of all other employees from other BAT departments takes place during staff meetings and quarterly briefs only. Some interviewed employees feel that while not much can be done, as it is the culture of the company; some feel that there can always be other ways of involving them in sustainability issues. For example personnel in finance could have something to say to manufacturing division so do those in ICT to CSI/R.

No doubt some sustainability efforts have already received more attention than others have, such as cut rag waste recycling, introduction of the green energy initiative, boiler machine efficiency, sustainable tobacco curing, lost day employee injury rates, environmental compliance and reporting. Others like the use of renewable energy as a percentage of total energy usage, water recycling, reduction in carbon emissions, bottom-up employee voices etc are still to be fully embedded in BAT Zimbabwe operations and sustainability culture. There is still a great deal to be done in these areas. To this end there is no doubt that BAT struggled along the way, like any other company, to remain afloat and to be a financially viable operation during the hyperinflationary environment which lasted nearly a decade, otherwise it would have closed its doors to the public by now. Given this background the company's CSR/I and sustainability efforts that need money to implement, will likely clash with the expectations of shareholders who are the first and foremost custodians of the operation. Incidentally, they have waited a long time to get good financial dividends. Hence it is expected that these efforts will take much longer to be realised, unless a vigorous campaign is undertaken to advise all BAT Zimbabwe shareholders of the long term benefits of waiting for returns from sustainability investment. Hence despite good efforts shown to date, it will take a long time to see full traction on the ground regarding the depth, scope and real culture of sustainability, being embedded in all the BAT Zimbabwe operations.

Socially BAT Zimbabwe has some work in terms of addressing some of society's challenges, such as the provision of university education for students from poor social backgrounds, computer and equipment donations, and answering some social calls like donations to HIFA although more can be done here. For example with more than eight universities in Zimbabwe one can always want the

facility to be at every University and not only one. From an environmental perspective there is still a lot of work that needs to be done before BAT can safely say it is truly a sustainable organisation. Key issues that have been raised above in terms of water and energy security, low carbon missions and footprint, curing tobacco from sustainable sources, etc., still need attention. For example up until now some of the company's contracted small farmers are still using fire-wood from unsustainable sources, although there is a decision to stop that by 2015 when new conditions will be set on a global level. Once that comes into effect no doubt BAT Zimbabwe will be recognised as a key industry player for this initiative in the tobacco industry given that for more than 30 years farmers operated under unsustainable farming practices and created huge concerns over deforestation and biodiversity loss in Zimbabwe's main tobacco farming and growing regions.

#### **5.2.4 Research objective number four**

*To ascertain the level of social, economic and environmental impact of BAT's corporate sustainability programmes and initiatives in the locality within which it operates.*

The research also concluded that BAT has a responsibility to continually look at and find ways to reduce, the public health risks of their products in demand. In this view, the Group Scientific Director David O'Reilly's views and beliefs are summarised in what he said: - “ With increasing global population where more people are expected to be smokers, clearly to reduce the health impacts from smoking, prevention by quitting initiatives alone will not adequately reduce the situation. What is needed is a broad-based approach, one that accepts that many adults are going to be smokers in the foreseeable future, using both tobacco and nicotine products, and in order to fully address this one needs to look at appropriate scientific and regulatory frameworks for the development and scientific assessment of these products, and monitoring of their use.” According to a report section by Ernest and Young, which is in the BAT Corporate Sustainability Report of 2011, the tobacco industry has not met the expectations of its stakeholders in the past.

Environmentally there will be massive benefits on biodiversity conservation by preservation of natural forests in Zimbabwe once the Zero Tobacco from Unsustainable Sources Campaign has kicked-in in 2015. So will be soil regeneration benefits due to float tray tobacco seedling from production systems currently being implemented. The introduction of renewable sources of energy at BAT Zimbabwe is a step in the right direction sustainability wise and at 13,5% however more needs to be done here. Next year BAT will save the embattled city of Harare millions of “treated water volumes” by recycling its water. Hence BAT Zimbabwe will lead a process where it will become an integral part of the socio-ecological system as it will help the business to understand the resilience of the system and where in the system it should operate.

One of the most difficult sustainability aspects to measure is social sustainability as it is far removed from the operations of the company. However there is no doubt that BAT has done some work in terms of various CSI/R programming. There is also no doubt that community programmes like HIV/AIDS talks, counselling and voluntary testing centres, donations to HIFA, donations to MoH towards blood donation equipment and scholarships go a long way in assisting in the improvement of health and knowledge of local farmers in the area. However a broad based comprehensive social strategy to addressing these ills is needed so is a framework of operation as informed by conditions on the ground.

Economically there has been some benefits for shareholders, government tax from corporate tax (where BAT pays corporate tax to the Zimbabwe government yearly), employees and BAT managerial staff, through the benefits of having BAT operating in Zimbabwe. According to the survey I did with employees, BAT still remains one of the most competitive companies to work for in the tobacco and agriculture industry. However it needs to be assessed what percentage contribution has been BAT made to the economic well being of the various stakeholders as compared to its annual net profit going forward.

### **5.3 Conclusion**

The research was an investigation into the effectiveness of corporate sustainability programmes and initiatives in the agricultural sector, the case of British American Tobacco Zimbabwe. According to Berry and Rondinelli and others sustainability embodies the promise of moving society towards a developmental path of equitability and a wealthy world that is reconciled by natural environmental and cultural achievements for all (Berry and Rondinelli, 1988; Azapegic and Perdan, 2000 in Azapegic, 2003; Dyllick and Hockerts, 2002 and Kolk, 2003 in Eweje, 2011a). According to BAT group Chairman, Richard Burrows, “the British American Tobacco has built a strong reputation for corporate social responsibility and sustainability and has been recognised as leaders in their industry”. With five set and clear sustainability goals being harm reduction, environment market place supply chain, people and culture the research concludes as follows:-

Currently at 13,5% of the total energy requirement for the whole company, BAT has still a long way towards drastically increasing the percentage contribution of renewable energy to its total energy requirements in its entire operations.

The research concludes that is currently BAT Zimbabwe is not recycling water as an environmental material resource. But as the research noted there are approved plans and supporting budgets for this going forward.

In terms of carbon emissions it is concluded that the generation of waste and greenhouse gas emissions show a decreasing trend from as high as 993 tonnes in 2001 to 168 tonnes in 2008, a decrease of 83%, with greenhouse gas emissions dropping from 9241 in 2001 to 2349 tonnes of carbon dioxide equivalent in 2008. In terms of carbon emissions the generation of waste and greenhouse gas emissions show a decreasing trend from as high as 993 tonnes in 2001 to 168 tonnes in 2008, a decrease of 83%, with greenhouse gas emissions dropping from 9241 in 2001 to 2349 tonnes of carbon dioxide equivalent in 2008.

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In summary BAT Zimbabwe experienced coal problems leading to the company being forced to use low-grade coal. This coal produced low caloric value and the organisation had to use more coal to meet its caloric value. In summary the research found out that the total percentage of waste recycled in 2010 was 86, 21 % and 86, 53 % in 2011. Non-hazardous waste to landfill (i.e. not incinerated or recycled) was found to be 26 tonnes in 2010 and 25 tonnes in 2011 against the panned target of 20 tonnes of the same year. The new initiative for 2015 of procuring tobacco cured from sustainable sources by the company, is one of the BAT Zimbabwe flagships social responsibility programmes in tobacco production, and will ensure that BAT will be only buying tobacco cured from sustainable sources.

Recently BAT has been looking at climate change risk mapping. This would give BAT Zimbabwe and BAT Global in general, more control and influence on the future and the long-term socio-economic issues facing company and its stakeholders.

The comprehensive Environmental, Health and Safety (EHS) Management system that was put in place by the BAT group back in 2002 to help define, monitor and capture sustainability parameters like water and renewable and non-renewable energy usage, green house gas emissions, waste to landfill, waste recycling, and other social issues like CRR/I, lost day worker injury rate has been instrumental in entrenching sustainability efforts at BAT.

The company`s CSR/I and sustainability efforts that need money to implement, will likely clash with the expectations of shareholders who are the first and foremost custodians of the operation. Incidentally, they have waited a long time to get good financial dividends. Hence it is expected that these efforts will take much longer to be realised, unless a vigorous campaign is undertaken to advise

all BAT Zimbabwe shareholders of the long term benefits of waiting for returns from sustainability investment.

Socially BAT Zimbabwe has some work in terms of addressing some of society's challenges, such as the provision of university education for students from poor social backgrounds, computer and equipment donations, and answering some social calls like donations to HIFA although more can be done here. For example with more than eight universities in Zimbabwe one can always want the facility to be at every University and not only one. From an environmental perspective there is still a lot of work that needs to be done before BAT can safely say it is truly a sustainable organisation. According to a report section by Ernest and Young, which is in the BAT Corporate Sustainability Report of 2011, the tobacco industry has not met the expectations of its stakeholders in the past.

The foregoing conclusion is that BATZ has still a long way to achieve traction on its sustainability programmes, projects and initiatives although enough background work has been laid and initiated and this has to be reconciled with the fact that the company has been operating in a hyperinflationary environment.

#### **5.4 Areas of further research**

The following area can form part of a new research areas for BAT Zimbabwe sustainability going forward,

- (a) A comparison of BAT Zimbabwe sustainability parameters and those of the regional tobacco companies to ascertain progress on the sustainability front in the tobacco industry.
- (b) Renewable energy contribution, water re-cycling and carbon emissions reductions planning for BAT Zimbabwe.
- (c) An assessment of sustainable tobacco curing by contracted small scale famers from 2015 onwards and the impact to the physical natural environment including natural forest regeneration in major tobacco growing regions in Zimbabwe.
- (d) The role of regulation and international trading in mainstreaming sustainability efforts at BAT Zimbabwe and,
- (e) Shareholder perceptions of BAT sustainability agenda.

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## Appendix A

### A list of those who participated in the interview and focus group discussions

British America Tobacco Zimbabwe Managing Director .....Mr Lovemore T. Manatswa

Head of Corporate, Legal and Regulatory Affairs,.....Shungu Chirunda

Executive Corporate, Legal and Regulatory Affairs,..... Petra Mtombeni

Manager for Corporate, Legal and Regulatory Affairs then,.....Leigh Blackway

Head of Manufacturing and Engineering .....Peter Moses Musarugwa

Health, Environmental and Safety Officer .....Walter Gonye

Leaf Sustainability Manager,.....Eddie Mandivhenyi

Leaf Sustainability Officer.....Louis Mkwenha

Financial Planning Manager.....Valentine Makandi

ICT Manager.....Godfey Manyawa

General Worker Factory).....Clifford Philima

Factory Worker.....Jealous Musonda

Factory Cleaner.....Farai Toto

Three General Administration workers.....Names withheld

### OUTSIDE BAT

Environmental Protection Officer (EMA Marondera).....William Chibwe

## **APPENDIX B**

### **Summary of BATZ Corporate Social Responsibility in the Agriculture and Environmental Programmes, Projects and Initiatives**

The BAT group Corporate Social Investment (CSR) Strategy is crafted at the Global Group level. Thus global strategy for the 2011/12 year had three operational areas from which BAT Zimbabwe and any other country operation can choose programmes/projects. These are Sustainable Agriculture and Leaf Sustainability, Empowerment, and Civil Life. Country operations are then given the liberty to choose and justify projects for CSR/I funding at their sole discretion, taking into consideration budget votes/allocations, availability of financial resources and programme/project sustainability in line with the total budget for the commercial operations within BATZ. For BATZ, the research found that empowerment was chosen as the principal and core CSR pillar under which most CSR projects will be implemented

## APPENDIX C

### Social Responsibility in Tobacco Production Activities

For BAT Zimbabwe, Corporate Social Responsibility is about entrenching the core principles of responsibility in tobacco production. BAT Zimbabwe runs a Corporate Social Responsibility in Tobacco Production Activities (SRTP) programme that is measured by the application of a standard template for tobacco production. About four years ago, BAT Zimbabwe took the lead and started a programme in which, from the year 2015, the tobacco manufacturing company will be procuring about 100% of its tobacco leaf from contracted farmers who use sustainable production and curing sources. In afforestation, the company works in a unique way with its contracted farmers. All farmers who are growing tobacco for BAT Zimbabwe are contracted via a contractor called Northern Tobacco. Northern Tobacco then works with all registered farmers by ensuring that progress is made towards production and curing of tobacco using sustainable sources. , The target was to plant four (4) million Eucalyptus trees in Eucalyptus plantations and woodlots in all the major tobacco growing regions, being Marondera, Mashonaland East, West and South and Manicaland.

In practice the company sells the young seedlings to all contracted farmers when they collect tobacco seed. In about six years these will be ready to be used by farmers contracted to BATZ for tobacco curing. From 2010/2011 tobacco farming season, on behalf of BATZ, Northern Tobacco distributed 1.2 million seedlings to farmers at cost, and this was to build sustainability and inculcate a sense of responsibility and to some extent accountability in the farmers. This SRTP is meant to ensure sustainable production of tobacco and leaf for BAT. This programme is meant to set a best practice standard for other tobacco contractors and processors like Tobacco Processors Zimbabwe (TPZ), Tia Zee, Chidziva Tobacco, and Savannah Tobacco etc. The programme will be used as a spring board by the Tobacco Marketing Board to promulgate a new Tobacco Act and policy on cleaner, greener, friendly and sustainable production methods of tobacco production in Zimbabwe, as TIMB is the regulator in the Zimbabwe tobacco industry.

During 2011/12 about 1.5 million seedlings were distributed and it is expected to distribute 2 million seedlings in 2012/13 which is about 25% of the targeted hectare. During the last year it will sell about 2.5 million seedlings to its contracted farmers. In summary the table below shows seedlings sold at cost (to build sustainability) and distributed to BATZ contracted farmers:-

**Table 4.14 Panned Eucalyptus National Planting Programme**

<b>Planting Season (PS)</b>	<b>Seedlings produced and sold/distributed to farmers</b>	<b>Gradual percentage increase</b>	<b>Key responsibility</b>
<b>PS 2010/11</b>	1,200 000	Base year	Northern Tobacco and Contracted farmers
<b>PS 2011/12</b>	1,500 000	25% of base year	Northern Tobacco and Contracted farmers
<b>PS 2012/2013</b>	2,000 000	33% of 2012/2013	Northern Tobacco and Contracted farmers
<b>PS 2013/14</b>	2,500 000	25% of 2013/2014	Northern Tobacco and Contracted farmers

As a strategy to reach the above targets, about six BAT Zimbabwe Eucalyptus Nursery sites were marked, targeted and established nationally, in all the major tobacco growing areas, propagating and producing exotic Eucalyptus and indigenous tree seedlings. The research indicated that last year a total of about 2,000,000 seedlings per tobacco farming season were produced in some provinces, and were sold to contracted tobacco farmers. These were established in Marondera (Watershed College, Farm Site), Manicaland (Odzi), Karoi, Chegutu, Bindura and Beatrice.

In summary, in the medium to long term, the programme is meant to reduce BAT Zimbabwe's biodiversity negative impact on natural woodlands in the main tobacco growing regions, by saving millions of hectares of natural forest.

## APPENDIX D

### Summary of Results of Boiler stacks emissions results

The following are the details of the emissions and comments are only included where there is a serious variation from the above general comments.

**Table 4.15: Summary of Boiler stacks emissions 2012 results**

Identity of test run	1 Values in mg/m <sup>3</sup> unless specified & limits in brackets								
	Stack temperature in degrees Kelvin & Ambient pressure	NO <sub>x</sub> ppm [70-150 as NO <sub>2</sub> ]	SO <sub>x</sub> [25-40]	Particulate [120]	CO <sup>1</sup> <sub>2</sub> % No limit. An indicator of burning efficiency.	O <sub>2</sub>	Efficiency levels <sup>2</sup>	% Variance	Comment
Average	469 1019mB	127	39.4	83.45	1.22	20.3	83.85	9.55	The fuel-burning appliance is overall classified in the yellow band. The boiler efficiency was 83.85% against an expected upper limit of 93.4% of boilers that attain such efflux temperatures. This is against a number of boilers that usually have efficiencies around 76%. This efficiency translates to the inefficient usage of fuel and indirectly output. The usage of coal even places more responsibility so as to reduce the amount of the coal, which is a non-renewable resource.
EMA Classification  NR=Not Regulated		<b>Yellow band</b>	<b>Yellow band</b>	<b>Green band</b>		NR	NR	NR	
Background	Ambient temperature  27.0 °C	Nil	1	Nm as the monitoring point was just an arbitrary place randomly selected outside the boiler house	0.028	20.9	N/A	N/A	

**Pressure 1019.0mBr**

<sup>1</sup> The CO<sub>2</sub> concentration is can be useful for the CO<sub>2</sub> emissions monitoring

## APPENDIX E

### Some technical definitions

**Continuous Improvement:** Process of enhancing the occupational safety, health and environmental management system to achieve improvements in overall safety, health and environmental performance in line with the organization's environmental, safety and health policy.

**Hazard:** Something with potential to cause harm.

**Lost Workday Case (LWC):** A lost workday case is defined as any occupational illness or work related accident involving lost working time excluding those accidents in which time lost is restricted to the day of occurrence. The definition also includes accidents in which an employee returns to work on the day following an accident but can only perform restricted duties.

**Lost Workday Case Incidence Rate (LWCIR).** The number of lost workday cases related to a common exposure base of 100 full-time workers during one year. The common exposure base enables accurate inter-industry comparisons, trend analysis over time, and comparisons among firms regardless of size. This rate is calculated as follows:

$$\frac{N}{EH} \times 200\,000$$

EH                      where;

N = number of lost workday cases,

EH = total hours worked by all employees during the reporting period,

200 000 = base for 100 full-time equivalent workers (working hours per week, 50 weeks per year).

**Occupational accident:** An occupational accident is regarded as any unplanned event that results in injury or ill health of people, or damage to property, plant, material or the environment or loss of business opportunity (HSE, 1993).

**Occupational safety and health:** Occupational safety and health is a multidisciplinary field dealing with the prevention of work-related injuries and diseases as well as the protection and promotion of the health of workers (ILO, 2006). In its broadest sense, it aims at;

- ✓ The promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations;
- ✓ The prevention among workers of adverse effects on health caused by their working conditions
- ✓ The protection of workers in their employment from risks resulting from factors adverse to health



- ✓ The placing and maintenance of workers in an occupational environment adapted to the physical and mental needs and
- ✓ The adaptation of work to humans.

**Occupational safety and health management systems (OSHMS):** A set of interrelated or interacting elements to establish OSH policy and objectives and to achieve those objectives (ILO, 2001).

**Occupational Safety and Health Policy:** Statement by the organization of its intentions and principles in relation to its overall safety and health performance, which provides a framework for action and for setting of its occupational safety and health objectives and targets.

**Risk:** The probability of a hazard causing harm or property damage and the severity of that harm.

## Appendix F

### **National Joint Venture Eucalyptus Woodlots Programmes by BAT and Local Contacted Small Farmers.**

The research found that apart from the individual plantations to the farmers the other programme was a joint venture programme between BAT and the local farmers. Common land was allocated to the programme by local chiefs, about 10 to 30 hectares of which are for the communal production of Eucalyptus woodlots, as a first joint step towards securing tobacco leaf from sustainable sources. These Joint Venture Eucalyptus Woodlots were established in Moarondera, Odzi/Nyazura, Darwedwale, Chegutu, Headlands, Karoi, and Mvuma.

In terms of operational modalities the land selection, preparation, planting, pest and disease control, general forestry agronomy harvesting and post harvest storage management, is done by the farmers, with close supervision from BAT Leaf Sustainability Unit and Northern Tobacco Company. Once the production is ready, the farmers are allowed to harvest only 30 % of the production and 70% is sold back to the same local farmers by BAT. There are many of advantages that come with this BAT Local Contracted Farmers National Joint Venture Eucalyptus Woodlots programme:

- (1) Farmers are encouraged to work in groups and this brings the formation of Commodity Groups
- (2) Correct process of bottom-up identification of the required CSI programme and establishment of buy-in.
- (3) Free Tobacco Farming Tips (FTP) are available every time farmers come together to work on a plantation
- (4) Ease in establishing common problems faced by farmers and possible responses
- (5) Farmer cohesion and stabilisation of local areas in other issues such as farmer isolation
- (6) Possibility of birth of farmer-driven community CSI projects between BAT and other farmers
- (7) Integrated and combined logistics/transportation of farm commodities to the BAT warehouses, and of seed and agrochemicals, tree seedlings, empty bags etc to the farmers.

The following table shows set and progress to-date of the Joint Venture Eucalyptus Woodlots.

**Table A.1 National Joint Venture Eucalyptus Woodlots.**

<b>Production Area</b>	<b>Total hectarage to date</b>	<b>Woodlots Status</b>	<b>Responsibility</b>
Marondera	80	Set-up	Joint
Odzi/Nyazura	80	Set-up	Joint
Headlands	100	Set-up	Joint
Darwendale	20	Set-up	Joint
Karoi	15	Set-up	Joint
Mvuma	100	In progress	Joint
<b>Total</b>	<b>395</b>	<b>Set-up/in progress</b>	<b>Joint</b>

For the next six years farmers will learn how to plant and look after a Eucalyptus plantation as sites are coordinated by both the Forestry Commission and the Environmental Management Agency (EMA). Issues to do with plantation establishment, entomology, forestry agronomy, harvesting and post harvesting management are taught to the local tobacco farmers, in co-ordinated sessions spread over the tobacco planting annual calendar. In the past and as planned for the future, this integrated some tobacco production regulatory issues Tobacco Industry and Marketing Board (TIMB) and new CSI announcement from BAT Zimbabwe, Environmental laws from EMA (I do not understand this) and a reminder of community social, economic and political events by local leadership.



**Figure A.1 Joint Venture Woodlots in Mutate city Area**

## Appendix G

### **Biodiversity Conservation – Establishment of Msasa and Acacia natural woodlands**

One of the main negative impacts of tobacco production is extensive deforestation of natural woodlands, as tobacco needs some heating for curing purposes. Mainly small-scale; resource poor farmers use natural wood fuel, as compared to their large scale counterpart farmers, who use coal for tobacco curing. For many years these small-scale farmers used nearby natural forest, as it was cost effective, and locally available, without fully appreciating the long-term negative impact of bad farming practices on the natural environment and ecosystem. This destroys biological diversity, extensively eroding the natural genetic library; soil erosion and soil; fertility loss; destruction of nature and its natural wonder etc. Typically it takes between 15 to 20 years for a secondary forest to reach harvesting age again. In view of this unsustainable agricultural practice, BAT Zimbabwe advised Northern Tobacco to work with communities, farmers and schools in understanding the benefits of Eucalyptus planting and also to take a long-term view in biodiversity restoration in the tobacco growing areas of Zimbabwe.

Two types of natural woodland are planted or propagated at the same site as the Eucalyptus seedlings and they are distributed to farmers together with Eucalyptus seedlings. These are Acacia and Msasa seedlings. These indigenous seedlings are given to farmers as donations. For effectiveness of monitoring this programme, the Forestry Commission as one of the key BAT Zimbabwe stakeholders does evaluation. They challenge the company and also give independent and unbiased reports on biodiversity reforestation and tree planting progress.

The research also found out that during the 2011/2012 planting season BAT Zimbabwe distributed batches of between 500 to 1000 seedlings to a total of 180 schools nationally. The organisation also reveals that it donated 10,000 seedlings to Dangamvura Mountain Trust in Mutare city, Manicaland. It also donated 5000 seedlings to Marondera City towards preventing illegal sand abstraction and establishing a gully reclamation project. This reclaimed over 10 hectares. A separate section on this BAT Zimbabwe CSI project is given below. The research also showed that the organisation donated a total of 22,000 seedlings of indigenous types of trees to the Forestry Commission and 11,000 to the Environmental Management Agency (EMA). Below is a table, which shows progress to date in terms of the planting of indigenous trees in areas that were destroyed by tobacco production.



**Table A.2 To-date National Planting Programme – Indigenous Trees (Acacia, Savannah and Msasa)**

<b>Indigenous Tree Type</b>	<b>Total indigenous seedlings produced and donated to schools, communities and contracted farmers</b>	<b>Key Responsibility</b>
<b>Acacia Savannah</b>	400 000	Northern Tobacco, Contracted farmers and Forestry Commission
<b>Msasa</b>	60 000	Northern Tobacco, Contracted farmers and Forestry Commission
<b>Total Plantings</b>	460 000	Northern Tobacco, Contracted farmers and Forestry Commission

The figures for the area and years were not captured and recorded.

**Figure A.2 Indigenous/Afforestation Seedling Propagation Nursery**

## Appendix H

### Sustainable Agriculture for leaf sustainability.

The research found that one of the BAT Zimbabwe CSI Programmes is sustainable agriculture. One of the main concerns BAT Zimbabwe and BAT global have in general is leaf sustainability in the face of changing laws, climate change, and global population boom to 9 billion by 2050, and shifting and constantly changing consumer needs. Add to this is economic progress, where it is anticipated and projected that disposable income especially in the middle-income population, groups will grow. One result of all these developments will be the generation of increased competition between crops for energy, land and water. BAT Zimbabwe views leaf sustainability for sustainable tobacco farming, as forming the most significant part of its entire supply chain sustainability strategy.

The research also found that BAT expects corporates and businesses in general to play more significant and greater roles in addressing social and environmental issues, through what they call; “influence and private–public partnerships”. To this end BAT Zimbabwe works with Northern Tobacco, a private tobacco company fully contracted to help BAT, to contract farmers for production of Flue-Cured Virginia tobacco, and direct selling of tobacco by BAT Zimbabwe. (I hope I understood this sentence correctly) This company, among other things, also deals with issues of supply to all contracted farmers, seedlings distribution, tobacco agronomy using best standards and practices, and afforestation programmes. To this end Northern Tobacco has employed 15 employees and BATZ has stationed two of its key leaf sustainability staff members to be based at this company. The two positions are the Leaf Sustainability Manager and the Leaf Sustainability Officer. These two form part of the 800 Leaf Managers, Officers and leaf operations technicians scattered in BAT operations around the world.

The research also showed that the agronomists employed by Northern Tobacco also assist farmers with agronomic support other than tobacco, hence ensuring food security to the BAT Zimbabwe contracted farmers, their families and local communities, in major tobacco growing regions in Zimbabwe. In summary the BAT Zimbabwe leaf sustainability team and Northern Tobacco agronomists endeavour to:

- (d) Give practical guidance on improving the long term potential of agriculture soil, farm resources and benefits of crop rotation.
- (e) Give information to all contracted BAT Zimbabwe tobacco farmers on relevant and timely information on best practices, such as in tobacco production, practical agronomy, farm labour management, safety standards and the appropriate use of agrochemicals.

- (f) Give critical technical advice on how to maximise yields, and optimise crop leaf quality, and achieve stable but optimal farm, enterprise and crop returns, thereby improving the long term sustainability of the farms.

The research also reveals that BAT Zimbabwe understands the complexities and nuances of agriculture, which is a complex interrelated social, environmental and economic undertaking. Hence BAT Zimbabwe will work to support a multi-stakeholder approach to sustainable tobacco farming. The research also found that in this way BAT Zimbabwe is using its influence, which it has always believed in, in working towards best practice in tobacco production for farmers, ensuring improved local environments and livelihoods for all its contracted farmers. The research found that this approach to farming comes and stems out of the UN Declaration of Human Rights, the Organisation for Economic Development (OECD)'s Guidelines for Multinational Enterprise, OECD's revised Guidelines for Multinational Enterprises and the Conventions for International Labour Organisation (ILO). The agronomic support makes sure that contracted farmers comply with group policy and local tobacco production laws in Zimbabwe.



## Appendix I

### Sustainable Wood Sourcing for BAT Zimbabwe Contracted Farmers

One of the key operations in the production and marketing of tobacco is tobacco curing, as at some point the bulk of the tobacco crop needs heating to achieve the right leaf organic chemistry. Here the right chemistry of the leaf should be achieved if the farmer wants to optimise in terms of quality and production quantity returns. For most small-scale farmers, the use of firewood is the cheapest alternative; hence wood fuel is widely used in tobacco farming. The research found that in 2011, globally 78% of the tobacco that was produced by BAT was cured from wood fuel. One of the activities BAT Zimbabwe has been engaged in is the afforestation programme mentioned above. This is meant to lead to zero use of natural forests by 2015. The research actually found that, globally, they made this progress by moving from 12.1 % to 7.3 % in reducing natural wood fuel to artificial woodlots fuel. To this end BAT Zimbabwe has been encouraging farmers who used to use wood from non-natural forests to use locally available alternative fuel means. These include gas, sawdust, packaged coal, candlenut shells, liquid petroleum gas as well as coffee or rice paddy husks. This happens while farmers are waiting for the Eucalyptus woodlots to be ready for harvesting.



**Figures A.3 Curing Tobacco from Sustainable Sources from Hunyani Forests**

## Appendix J

### **Critical Collaboration in Designing for Optimal Fuel Efficiency Improvement in Tobacco Production.**

The research found that BATZ Zimbabwe and BAT Global have set themselves a target of zero use of natural forest for their directly contracted farmers by 2015. One of the key activities being done towards achieving this target is looking at the innovative designs for tobacco curing. The Rocket Barn Tobacco Curing Pilot Programmes is one of these designs for optimal fuel efficiency improvement. It was originally designed by Peter Scott and Burn Design Lab (Laboratory?). The technique uses a double chimney to draw air through the inner barn. The results have been phenomenal and this concept was found to cure tobacco much faster and use less wood fuel than conventional barns, a huge breakthrough in terms of efficient production, resource use and conservation. It will also result in biodiversity conservation as all contracted farmers to BAT Zimbabwe and BAT global eventually will no longer be allowed to cure their tobacco from unsustainable sources like natural forests. The rocket barn is suitable for small-scale farmers as they are affordable, easy to erect and are designed for small-to medium-scale production levels.

From January 2010 to April 2011, BAT Zimbabwe, in collaboration with Northern Tobacco and the Tobacco Research Board (TRB) started piloting the project to assess the performance of barn design. TRB constructed the test rocket barns at its Kutsaga Research Station in Harare. A conventional barn was used as a control with results showing that the rocket barn uses 50% less wood. The research found that due to its advantages to the small-scale farmer, BAT Zimbabwe is encouraging its farmers to completely switch to rocket barns, with the goal of using sustainable sources of exotic woodlands by 2015 from which year BAT will no longer be buying tobacco cured from unsustainable sources. (This has been said so many times!!) For pictures of the launch of the Rocket Barn see figure 4.5 below, and to see what it looks like, see figure 6.6 below





**Figure A.4 Launch of The Rocket Barn Trial at Tobacco Research Board (TRB), 2011.**

In this picture, the Minister of Land Re-settlement, Agriculture and Farm Mechanisation, Dr Joseph Made and BAT Managing Director Mr Lovemore T Manatswa and other Officials at the official launch of the Rocket Barn Trail at The Tobacco Research Board (TRB) in Harare.



**Figure A.5 The Rocket Barn in the Tobacco growing A1 small-scale farms in Zimbabwe.**

## **Appendix K**

### **Rehabilitation of Marondera Necherutombo Illegal Sand Abstraction 10-Hectare Site.**

In support of urban land reclamation BAT Zimbabwe, collaborated with both EMA and Marondera City Council and spent about USD \$5000 in reclaiming and rehabilitating Marondera Necherutombo Illegal Sand Abstraction on an about 10 Hectare site. This illegal extraction was caused by illegal sand dealers who dug areas around the city with the intention of selling this sand to the booming housing construction projects in Marondera.

## **Appendix L**

### **Addressing Child Labour in BAT Zimbabwe leaf supply operations**

Child labour is an important human rights issue in any industry, and supply chain for that matter, and the tobacco industry is no exception. The research found that BAT Zimbabwe has followed a group wide Child Labour Policy since 2000. Elimination of child labour is one of the key elements of BAT's Social Responsibility in Tobacco Production (SRTP) programmes. From BAT Global's point of view this is one of the reasons why BAT was one of the founding members of the Eliminating Child Labour in Tobacco Growing (ECLT) Foundation in 2001. BAT Zimbabwe runs community based workshops and activities in raising child-labour awareness issues, and improvement in accessing education and health services for children through Zimbabwe's Universal access for Education for children of all ages. The company also built local capacity in addressing this problem so that the community policy itself and alerted Government officials about child labour cases. By this BAT Zimbabwe makes sure that there is no to very limited, if any, child labour, in its supply chain. Apart from securing leaf for BATZ, one of the key responsibilities of both the BAT Zimbabwe staff stationed at Northern Tobacco and the Northern Tobacco agronomists is to go around farms, speaking to farmers raising awareness and monitoring child labour in tobacco operations. The research also found that this approach stemmed from the UN Declaration of Human Rights, the Organisation for Economic Development (OECD's) Guidelines for Multinational Enterprise, OECD's revised Guidelines for Multinational Enterprises and the Conventions for International Labour Organisation (ILO).

## **Appendix M**

### **How BAT Zimbabwe has been preparing for leaf security in the future**

BAT Zimbabwe and all other BAT sites around the world, are busy protecting the long-term security of tobacco leaf, thereby ensuring sustainability. Most of BAT CSI programmes are based on this business. Secondly BAT Zimbabwe is looking at the use of supply chain programmes for continuous building of partnership projects to protect the human rights of their parties contracted farmers and local communities in general. Thirdly in terms of the same supply chain sustainability, BAT Zimbabwe is looking at reducing environmental impacts in their operations and also encouraging suppliers to reduce theirs. Overall BAT Zimbabwe will work for positive social, environmental and economic impacts in their supply chain. This looks quite a task ahead of BAT Zimbabwe as it does not have farms nor does it directly employ farmers. Hence relationships remain fundamental to BAT Zimbabwe operations. Globally BAT works with more than 14,000 farmers in 19 countries and its influence cannot be underestimated.

## APPENDIX N

### BAT Zimbabwe's Empowerment and Civil Corporate Social Investment Programmes in Zimbabwe.

According to the Department of Corporate, Legal and Regulatory Affairs (CORA) at BAT Zimbabwe, two fundamental principles underpin all that BAT Zimbabwe does, the first principles being responsibility and the second, investment. When BAT talks about responsibility it is talking about embeddedness of the core principles of being a responsible business in the way BAT works. It is about accountability, openness in its operations, non-discrimination, and a high degree of ethical conduct, paying of corporate taxes to government and practising transparency. Every single department or division or unit in BAT Zimbabwe must contribute towards responsibility in business operations. For example, for the marketing team, International Marketing Standards (IMS) inform how the team must conduct responsible business. Overall responsibility is how BAT interfaces with stakeholders and the quality of its engagement. In it understands, the BAT Zimbabwe team believes that responsibility is about ethical trading which must inform business philosophy. It is about trying to mitigate the risks of doing business or take steps towards mitigation of any significant dangers involved in doing business. In BAT, investment talks about a view in doing business around society, environment and business operations

#### BAT Zimbabwe's Summary of Civic Life CSR/I Programmes

In 2009 and 2010 BAT Zimbabwe donated \$19,939.92 and \$29,964.33 respectively to undergraduate scholarship programmes. These donations were made under BAT Zimbabwe's civil life pillar of its CSR/I programmes. It should be noted that this was the only CSR programme area to which BAT Zimbabwe managed to contribute, during those two financial years. The programme benefited many students at various Universities such as Chinhoyi, Midlands State, and various Agricultural Colleges such as Gwebi, Chibero and others. More than 100 tertiary undergraduate students benefited from this programme and it has seen many students graduating and getting jobs, assisting themselves, their families, local communities and society in general. Below is the total budget in USD for the two funding years for BAT Zimbabwe CSR/I Programmes.

**Table A.3 BAT Zimbabwe 2009 and 2010 CSR/I Expenditure**

<b>Activity</b>	<b>2009</b>	<b>2010</b>
<b>Undergraduate Scholarship Scheme</b>	<b>19,939.92</b>	<b>29,964.33</b>

The research also found that this usually takes a significant amount of the CSR/I budget but not so in 2011, where the greatest amount went to National Blood Services. The research found that in 2011, the Undergraduate Scholarship Scheme activities were allocated USD 15, 373, 00 against a total CSR budget of USD 77,584.00.

#### **BAT Zimbabwe`s CSR/I Donation to HIFA**

The research also found that in 2011, BAT Zimbabwe made a donation of USD 16,000 (against a total CSR budget of USD 77,584.00) to the Harare International Festival for the Arts (HIFA), which is an international music and art festive event to celebrate art and music.

#### **BAT Zimbabwe`s Computer CRI/R donation**

The research also found that in 2011 the BAT Zimbabwe Company made a donation of computers valued at of USD 7,990.00 against a total CSR budget of USD77, 584.00. They also made a donation of USD 2,550 worth of computer accessories in the form of printers for the donated computers.

#### **BAT Zimbabwe`s National Blood Services Zimbabwe CSR/I Project Activities**

In its social empowerment pillar BAT Zimbabwe was also involved in the donation of blood transfusion equipment and other services. It also donated a generator costing USD 11,000.00 and a Caravan costing USD 24,671.00. This was done against a total CSR budget of USD 77, 584.00. The donation and investment were made in recognising that BAT Zimbabwe operates in a society and the company endeavours to play a significant role in life-saving services for the ordinary Zimbabweans. Hence a significant amount of the empowerment CSR programme budget for 2011 was spent under this pillar. Below is a table of the amounts spent in 2011.

**Table A.4 A Summary of CSR/I Activities against the Financial Year 2011(FY2011) Budget Vote**

<b>Description</b>	<b>CSR/I Spent ( in US\$)</b>
Undergraduate Scholarship Scheme	15,373.00
Generator for the NBSZ	11,000.00
Caravan for the NBSZ	24,671.00
Computers for the MSU	7,990.00
Printer for the MSU	2,550.00
HIFA Sponsorship	16,000.00
<b>Total (in US\$)</b>	<b>77,584.00</b>

**Notes to the table above:** - The greatest amount of BAT Zimbabwe budget usually goes to the Undergraduate Scholarship Scheme (USS) but in 2011 BAT Zimbabwe embarked on a project for the National Blood Services Zimbabwe (NBSZ) which then took up the greatest amount of the budget as shown above. (The caravan cost more!!)

**Appendix P****Total Volume of Cigarette production against EHS, capital and revenue Expenditure Summary Figures**

		<b>Unit of Measurement</b>	<b>2010 Actual</b>	<b>2011 Actual</b>	<b>2011 target</b>	<b>2012 target</b>	<b>Target % Change</b>
<b>BATZ Company Information</b>							
<b>Total Volume Produced</b>	Equivalent Cigarettes	Millions of cigarettes equivalent	2,981	4,528	2,902	3,900	-13,87%
<b>Total sales</b>	Cigarettes	Millions of cigarettes equivalent	-?	-?	-	-	-
<b>EHS Expenditure</b>	EHS Expenditure	B/Pound	52.049	46,539	34,830	95,000	104,13%
	Capital Expenditure	B/Pound	0	3,570		30,000	740,34%
	Revenue expenditure	B/Pound	52.049	46,539	34,830	65,000	51,27%
	Fines, penalties and surcharges	B/Pound	0	0			



## APPENDIX Q – Tobacco fact sheet from the USA

“ The USA tobacco-related Surgeon General’s report was issued since 1964. It describes the epidemic of tobacco use among youth ages 12 through 17 and young adults ages 18 through 25, including the epidemiology, causes, and health effects of this tobacco use and interventions proven to prevent it. Scientific evidence contained in this report supports the following facts:

We have made progress in reducing tobacco use among youth; however, far too many young people are still using tobacco. Today, more than 600,000 middle school students and 3 million high school students smoke cigarettes. Rates of decline for cigarette smoking have slowed in the last decade and rates of decline for smokeless tobacco use have stalled completely.

Every day, more than 1,200 people in this country die due to smoking. For each of those deaths, at least two youth or young adults become regular smokers each day. Almost 90% of those replacement smokers smoke their first cigarette by age 18.

There could be 3 million fewer young smokers today if success in reducing youth tobacco use that was made between 1997 and 2003 had been sustained.

Rates of smokeless tobacco use are no longer declining, and they appear to be increasing among some groups.

Cigars, especially cigarette-sized cigars, are popular with youth. One out of five high school males smokes cigars, and cigar use appears to be increasing among other groups.

Use of multiple tobacco products—including cigarettes, cigars, and smokeless tobacco—is common among young people.

Prevention efforts must focus on young adults ages 18 through 25, too. Almost no one starts smoking after age 25. Nearly 9 out of 10 smokers started smoking by age 18, and 99% started by age 26.

Progression from occasional to daily smoking almost always occurs by age 26.

Tobacco use by youth and young adults causes both immediate and long-term damage. One of the most serious health effects is nicotine addiction, which prolongs tobacco use and can lead to severe health consequences. The younger youth are when they start using tobacco, the more likely they’ll be addicted.

Early cardiovascular damage is seen in most young smokers; those most sensitive die very young.

Smoking reduces lung function and retards lung growth. Teens who smoke are not only short of breath today; they may end up as adults with lungs that will never grow to full capacity. Such damage is permanent and increases the risk of chronic obstructive pulmonary disease.

Youth are sensitive to nicotine and can feel dependent earlier than adults. Because of nicotine addiction, about three out of four teen smokers end up smoking into adulthood, even if they intend to quit after a few years.

Among youth who persist in smoking, a third will die prematurely from smoking.

Youth are vulnerable to social and environmental influences to use tobacco; messages and images that make tobacco use appealing to them are everywhere.

Young people want to fit in with their peers. Images in tobacco marketing make tobacco use look appealing to this age group.

Youth and young adults see smoking in their social circles, movies they watch, video games they play, websites they visit, and many communities where they live. Smoking is often portrayed as a social norm, and young people exposed to these images are more likely to smoke.

Youth identify with peers they see as social leaders and may imitate their behavior; those whose friends or siblings smoke are more likely to smoke.

Youth who are exposed to images of smoking in movies are more likely to smoke. Those who get the most exposure to onscreen smoking are about twice as likely to begin smoking as those who get the least exposure. Images of smoking in movies have declined over the past decade; however, in 2010 nearly a third of top-grossing movies produced for children—those with ratings of G, PG, or PG-13—contained images of smoking.

Tobacco companies spend more than a million dollars an hour in this country alone to market their products. This report concludes that tobacco product advertising and promotions still entice far too many young people to start using tobacco.

The tobacco industry has stated that its marketing only promotes brand choices among adult smokers. Regardless of intent, this marketing encourages underage youth to smoke. Nearly 9 out of 10 smokers start smoking by age 18, and more than 80% of underage smokers choose brands from among the top three most heavily advertised.

The more young people are exposed to cigarette advertising and promotional activities, the more likely they are to smoke.

The report finds that extensive use of price-reducing promotions has led to higher rates of tobacco use among young people than would have occurred in the absence of these promotions.

Many tobacco products on the market appeal to youth. Some cigarette-sized cigars contain candy and fruit flavoring, such as strawberry and grape.

Many of the newest smokeless tobacco products do not require users to spit, and others dissolve like mints; these products include snus—a spitless, dry snuff packaged in a small teabag-like sachet—and dissolvable strips and lozenges. Young people find these products appealing in part because they can be used without detection at school or other places where smoking is banned. However, these products cause and sustain nicotine addiction, and most youth who use them also smoke cigarettes.

Through the use of advertising and promotional activities, packaging, and product design, the tobacco industry encourages the myth that smoking makes you thin. This message is especially appealing to young girls. It is not true—teen smokers are not thinner than nonsmokers. Comprehensive, sustained, multi-component programs can cut youth tobacco use in half in 6 years.

Prevention is critical. Successful multi-component programs prevent young people from starting to use tobacco in the first place and more than pay for themselves in lives and health care dollars saved.

Strategies that comprise successful comprehensive tobacco control programs include mass media campaigns, higher tobacco prices, smoke-free laws and policies, evidence-based school programs, and sustained community-wide efforts.

Comprehensive tobacco control programs are most effective when funding for them is sustained at levels recommended by the Centers for Disease Control and Prevention`.

## **APPENDIX R**

### **RESEARCH QUESTIONNAIRE**

#### **Introduction**

My name is Stanley Blessings Nyanyirai, An Mphil Student at the University of Stellenbosch. The reason for my visit to BAT is to conduct a research to investigation into the effectiveness of corporate sustainability programmes and initiatives in the agricultural sector looking at British American Tobacco Zimbabwe as the case. The purpose of this research is for academic purposes only and I will not use this Reasecrh for any commercial purposes. Below are efew questions that will take about 45 minutes to answer. You are free to skip questions you are not free to answer. All names shall be treated with confidentiality. Six months after graduation these questionnaires shall be destroyed to keep participant confidentiality further

#### **Research Administration Section**

Name.....

Department.....

Position.....

Age.....

Gender.....

Contact details.....

Starting Time.....

Finishing time.....

## **MAIN RESEARCH QUESTIONS**

### **QUESTION 1**

What is your understanding of Sustainability and sustainable development?

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### **QUESTION 2**

What do you understand by sustainability reporting?

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### **QUESTION 3**

What areas do BAT focus on in sustainability reporting?

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### **QUESTION 4**

Why do you think BAT should ever be worried about sustainability?

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**QUESTION 5**

Does BAT has a reporting framework and tools for reporting sustainability activities

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**QUESTION 6**

How does BAT Z reports sustainability activities

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**QUESTION 7**

Does your strategy require annual reporting against set target?

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**QUESTION 8**

Going forward what is your general assessment of the impact of BAT sustainability

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**QUESTION 8**

How often does BAT Z report on sustainability activities?

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### QUESTION 10

Can you comment on the following on how BAT addresses the following in business operations?

(a) Environmental aspects

(b) Economic aspects

(c) Social aspects.

### QUESTION 11

Does BAT has sustainability objectives and what are these?

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### QUESTION 12

Name some of the stakeholders that work with BAT in addressing sustainability challenges in Zimbabwe.

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### QUESTION 13

How does BAT raise sustainability awareness/issues to the following stakeholders:-

(a) Employees

(b) Stakeholders

(c) Shareholders

(d) Board

(e) Management and Executives

#### **QUESTION 14**

How does BAT disseminate sustainability information to the above stakeholders?

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#### **QUESTION 15**

Do you think there is a link between BAT top management philosophy, corporate strategy and the company`s corporate sustainability programmes, initiatives and other efforts, and the various stakeholders

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#### **QUESTION 16**

How do you think BAT management integrate sustainable development practice and initiatives into the BAT Zimbabwe business model

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**QUESTION 17**

What do you think is the depth, scope and culture of sustainability in terms of the extent to which they are embedded in the BAT Zimbabwe Operations?

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**QUESTION 18**

What do you think is the level of economic, social and environmental impact of BAT's corporate sustainability programmes and initiatives in the locality in which it operates.

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**Thank you.**

**Time.....**



## **ANNEXURE R: - RESEARCH PHOTOS**

**Below are the field photos that the research was able to select and use. Please note that photographing was not allowed at BAT Zimbabwe Head Office (especially in Factory) according to BAT corporate policy**



**The photograph above shows the Reaseacher (Stanley Nyanyirai) officially arriving at BAT Zimbabwe head qurters in Sourtherton, Harare.**





**Raising Eucalyptus seedlings in float trays provided by Tobacco Research Board (TRB)**





**Due to lack of space in the tree seedling garden, some of the seedlings are grown by being floated in water**





**The picture above, women at Watershed College are trasplating seedlings for joint tree seedling and woodlot production.**



**The above picture, the ideal practise in raising tree seddlings in tobbacko float trays to aavoid use of Methylbromide which alters soil fertility and reduces soil life.**



**BAT Leaf Sustainability Officer explaining how tree seedlings are raised in float trays. At Watershed College in Marondara)**

**In the above picture, BAT Leaf Sustainability Officer ( stationed at Northern Tobacco in Harare) explaining how tree seedlings are raised from float trays.**









**The pictures above Eucalyptus seedlings ready to be transplanted into moist ground**





**The above picture shows tree seedlings planting bed ready to be watered and to receive plantings**



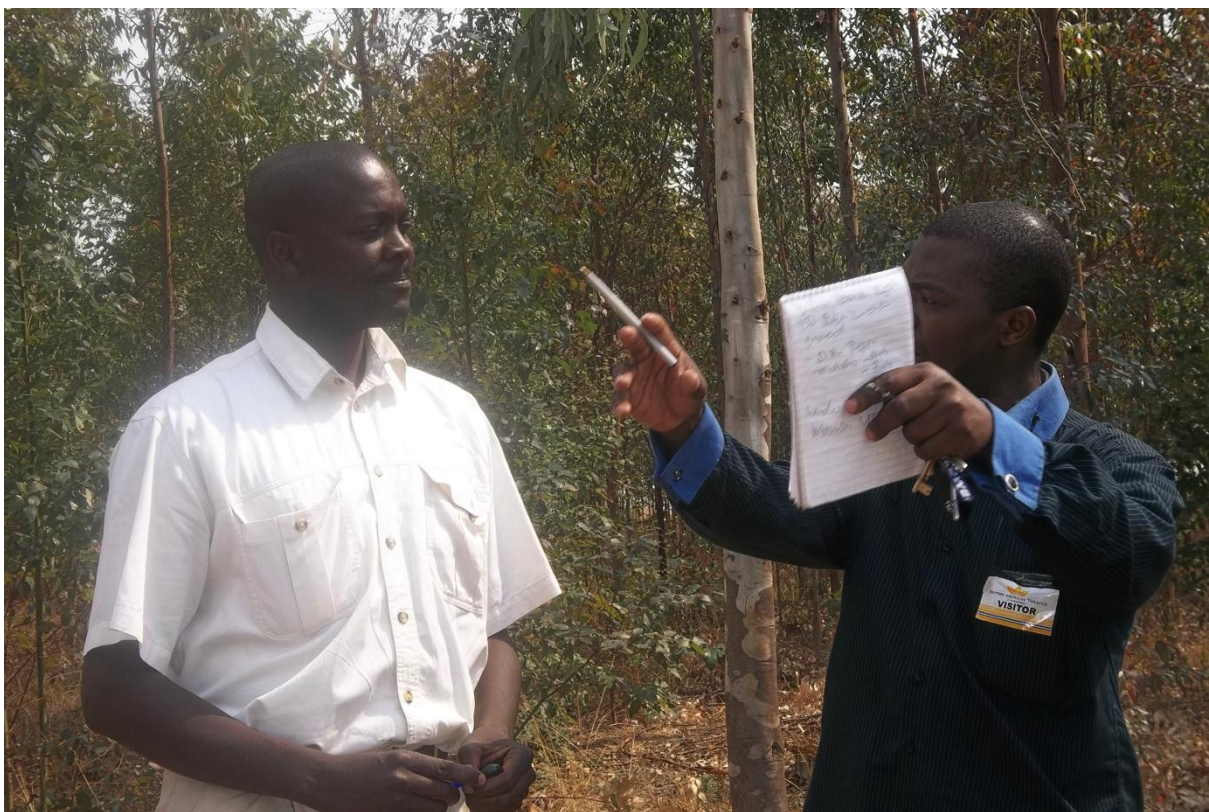


**The above picture shows tree seedlings bed ready to be watered and planted**





The picture below , a three year old Eucayptus plantation in Mutare





**Thr picture above, the Resercher is asking questions to the Sustainability officer on forestry management.**



**A Fire guard constructed around a Eucalyptus Joint woodlot in Karoi, Mashonaland West where BAT has programmes with local farmers.**





**A Seven-year old Eucalyptus planting in the Nyazura/Odzi in Manicaland province.**



**Indegeous trees ready to be donated to BAT contracted tobacco famers in Marondera**





**More indeginous seedlings of Msasa trees and other varieties**



**Mashonaland East Environmental Managment Agency Head Office**